ROHDE&SCHWARZ

Manual

FREQUENCY CONVERTER XSRM-Z

238.0616.02

to Rubidium Frequency Standard XSRM

Printed in the Federal
Republic of Germany

CASE 1 SET 215

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Supplement
to
Manual
Frequency Converter XSRM-Z
238.0616.02

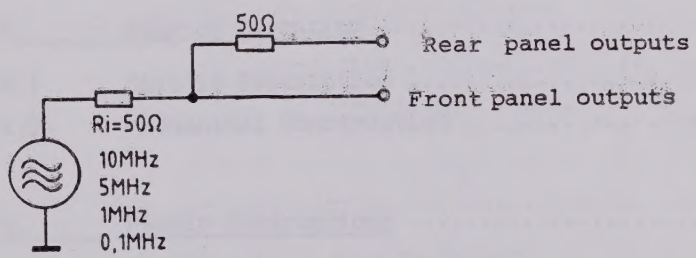
The specifications pertaining to the source impedance have been changed as follows:

Outputs on the front panel

Source impedance Z_s ..... 50 Ω (VSWR <2)

Outputs on rear panel

Source impedance Z_s ..... with 50 Ω decoupled at outputs on rear panel



Output impedance (Block diagram)

einheften nach Deckblat

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Parts Lists

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1. Characteristics

1.1 Uses

The Frequency Converter 238.0616 converts the input frequency of 5 MHz to 0.1 MHz, 1 MHz and 10 MHz. It also delivers the 5-MHz input frequency at a separate output.

The Frequency Converter is an accessory unit for the Rubidium Frequency Standard XSRM, which supplies the standard frequency of 5 MHz. The Frequency Converter can, however, also be used with any other signal source delivering 5 MHz at the required level (see section 1.3).

1.2 Description

(see block diagram Fig. 1)

The input signal of 5 MHz is applied to the input amplifier after which it is split up into two branches: one leading to the output amplifier for 5 MHz, the other leading to a frequency doubler.

The 10-MHz output signal of the doubler is again split up. One branch leads to the 10-MHz output amplifier, the other to a 10:1 frequency divider. The 1-MHz output of this divider is applied to the 1-MHz output amplifier and, in addition, to another 10:1 frequency divider, which produces a frequency of 0.1 MHz. This signal is then applied to the 0.1-MHz output amplifier.

The four outputs at the front panel of the Frequency Converter deliver an EMF of 2 V_{rms}. The source impedance is 50Ω .

The sockets on the rear panel are provided for testing purposes. They are connected to the associated output amplifiers via 47-Ω resistors. The output EMF of these outputs is 2 V_{rms}, the source impedance 100 Ω.

All output signals are sine-shaped and phase-locked to the input frequency. The Frequency Converter is equipped with silicon semiconductors and integrated circuits.

1.3 Specifications

5-MHz input

Frequency	5 MHz
Required input voltage	0.2 to 2 V_{rms}
Input impedance	> 500 Ω
Connector	BNC socket

Outputs on rear panel

Frequencies	0.1 MHz, 1 MHz, 5 MHz, 10 MHz
Output EMF	2 V_{rms}, sinewave
Source impedance	100 Ω ± 10 %
Harmonic suppression	> 30 dB
Isolation between outputs	- 60 dB
Connectors	4 BNC sockets

Outputs on front panel (test outputs)

Frequencies	0.1 MHz, 1 MHz, 5 MHz, 10 MHz
Output EMF	2 V_{rms}, sinewave
Source impedance	50 Ω ± 10 %
Harmonic suppression	> 30 dB
Isolation between outputs	- 60 dB
Connectors	4 BNC sockets

General data

DC input voltage	22 to 32 V
Power consumption	approx. 2W
Connector	2-contact Lemo socket
Nominal temperature	- 20 °C to + 45 °C
Shelf temperature	- 40 °C to + 60 °C
Dimensions (W x H x D)	**50 mm x 132 mm x 342 mm**
Overall depth	**374 mm**
Weight	approx. 1 kg

1.4 Accessories Supplied

1 connecting cable	291.0875	(for operating voltage from power supply 237.8013)
1 connecting cable	238.8130	(for operating voltage from external power-supply unit or battery)
1 AF connecting cable	214.5718	

2. Preparation for Use and Operating Instructions

2.1 Legend for Figs. 2 and 3

Ref.No.	Engraving	Function
11	10 MHz	10 MHz } test outputs
8	5 MHz	5 MHz
10	1 MHz	1 MHz
9	0.1 MHz	0.1 MHz
	2 V R_i = 100 Ω	A sinewave output EMF of 2 V_{rms} is available at these sockets; source impedance 100 Ω. The 47-Ω decoupling resistors preclude voltage breakdown when short circuit occurs at any of these outputs.
5	Sil M 0.2 C	Fuse for supply voltage; Type M 0.2 C DIN 41571
6	22 - 32 V = INP.	Input for DC supply voltage of between 22 and 32 V
7	INP. 5 MHz 0.2 - 2 V	Input socket for 5-MHz signal for driving the Frequency Converter; input level 0.2 to 2 V_{rms}
2	5 MHz	5 MHz } output sockets
4	0.1 MHz OUTP.	0.1 MHz
3	1 MHz	1 MHz
1	10 MHz	10 MHz
	2V R_i = 50 Ω	A sinewave output EMF of 2V_{rms} is available at these sockets; source impedance 50 Ω

2.2 Preparation for Use

Apply the DC supply voltage, which may be between 22 V and 32 V, at socket 6 (Fig. 3).

Socket 7 is the input for the 5-MHz signal.

The sockets 1, 2, 3, and 4 at the front panel are the outputs for the frequencies 10 MHz, 1MHz and 0.1 MHz. The maximum output EMF of these sinewave signals is 2 V_{rms}, the source impedance is 50Ω.

The four sockets 11, 8, 10 and 9 on the rear panel deliver the frequencies of 10 MHz, 5 MHz, 1 MHz and 0.1 MHz for test purposes. If a short circuit is produced at any of these outputs, the resulting voltage drop is minimized by 47-Ω decoupling resistors in the outputs. The maximum output EMF of these sinewave signals is 2 V_{rms}, the source impedance 100 Ω.

2.3 Operation

When the required connections are established (see section 2.2), the Frequency Converter is ready for operation.

3. Maintenance

3.1 Required Measuring Equipment

Table 1

Item	○ Designation ● Recommended R&S equipment	Type	Ident.No.	Use described in section:
1	○ Power-supply unit ● DC Power Supply	NGA 35	192.0010.04	3.2.1 5.
2	○ Digital voltmeter ● Digital Multimeter	UDL 4	346.7800.02	5.
3	○ Oscilloscope e.g. Tektronix	475 A		3.2.1 5.
4	○ Power signal generator ● Power Signal Generator	SMDU	249.3011.02	3.2.1 5.
5	○ Selective microvoltmeter ● Selective Microvoltmeter	USH 1	205.3616.04	5.

3.2 Checking the Rated Specifications

This only comprises occasional checks of the output voltages.
Proceed as follows:

a) Connect DC supply voltage (24 V) to socket 6 .

b) Apply a signal of 5 MHz with an amplitude of 1 V_{rms} to socket 7 .

c) Check the voltages and frequencies available at all outputs on the front and rear panels with the aid of an oscilloscope.
The sinewave output voltage should have an amplitude of 2 V_{rms} ±5% at all outputs.

4. Mode of Operation

4.1 Circuit Description

(see circuit diagram 238.0616 S)

The Frequency Converter 238.0616 consists of the following main circuits:

- Input amplifier with frequency doubler 238.1012 I
- Frequency divider (10 MHz/1 MHz) 238.1064
- Frequency divider (1 MHz/0.1 MHz) 238.1112
- 10-MHz output amplifier 238.1164
- 5-MHz output amplifier 238.1212
- 1-MHz output amplifier 238.1264
- 0.1-MHz output amplifier 238.1312

Voltage stabilizer for operating voltage of output amplifiers (incorporated in input amplifier with frequency doubler 238.1012 II) and for frequency dividers (incorporated in 10 MHz/1 MHz divider 238.1064)

The input signal is amplified and limited by transistor T1. The subsequent transistor stage T2-T3 converts the input signal into a squarewave. The parallel resonant circuit TR1-C3-C4 is tuned to 5 MHz. The signal path is then split up into two branches: one leading to the 5-MHz output amplifier, the other to the frequency doubler T4-T5. The parallel resonant circuit TR2-C5-C6 is tuned to 10 MHz. The signal path is again split up into two branches: one leading to the 10-MHz output amplifier, the other to the 10 MHz/1 MHz frequency divider.

The transistor stage T10-T11 amplifies and limits the 10-MHz signal. The integrated frequency divider B1 produces a frequency of 1 MHz. Its output signal is also split up. One branch leads to the 1-MHz output amplifier, the other to the 1 MHz/0.1 MHz frequency divider.

Vie the two-stage buffer amplifier T15-T16, the signal is then applied to the integrated divider B2 which produces a frequency of 0.1 MHz. This is followed by the 0.1-MHz output amplifier.

The output amplifiers for 10 MHz, 5 MHz, 1 MHz and 0.1 MHz are largely identical in design. There operation is therefore explained only once, taking the 10-MHz amplifier as an example.

Transistor T25 forms the input stage of the amplifier. The input signal is converted to a squarewave in the subsequent transistor stage T26-T27. The parallel resonant circuit TR3-C31-C32 at the output is tuned to 10 MHz. The amplitude of the output voltage is adjusted with R57.

The outputs on the front panel (BU2, BU4, BU6, BU8) have a source impedance of 50Ω .

The outputs on the rear panel (BU3, BU5, BU7, BU9) are test outputs, which are connected to the associated output amplifiers via 47-Ω resistors. This ensures that the output voltage does not break down if a short circuit is produced at any of these outputs.

The output EMF available at all sockets is $2\,V_{rms}$.

The voltage stabilizer for the operating voltage of +20 V consists of the series transistor T21 and the control section comprising the operational amplifier B3 and the control transistor T20. This circuit, accommodated on board 238.1012 II, delivers the operating voltage to the four output amplifiers. Another voltage stabilizer converts the above 20 V DC to +5 V and delivers this to the frequency dividers. The stabilizer consists of the series transistor T12, the control transistor T13 and the feed sections B1 and B2 (shown separately in the circuit diagram 238.0616 S for the sake of clearity; they are, however, incorporated in the dividers B1 and B2). This stabilizer for the frequency dividers is accommodated on the board of the 10 MHz/1 MHz divider (238.1064).

4.2 Mechanical Construction

All circuits of the Frequency Converter are in printed form and accommodated in a metal frame. After removal of the two cover plates, the circuits are easily accessible. Fig. 4 shows the components side of the various circuits, which are soldered to the frame at four points each.

5. Repair Instructions

5.1 Required Measuring Equipment

See table in section 3.1.

5.2 Trouble Shooting

The most likely symptom of a defect in the Frequency Converter is the absence of the signal at one or more outputs. To trace the cause of the fault, first of all determine the missing frequency(ies). The crosses in the associated vertical column(s) 1 to 4 of table three indicate the defective circuit(s) or component(s) in column 5. Once the defective circuit is known, the actual cause of the fault can be determined more easily, using the attached circuit diagram 238.0616 S with parts lists.

5.3 Recalibration

For all adjustment described in the following sections, apply a signal of 5 MHz, 1 V_{rms} to input socket 7 (Fig. 3).

5.3.1 Adjusting the Input Amplifier

Adjust the reasonant circuit TR1-C3-C4 for maximum voltage at 5 MHz. Measure the voltage produced in the circuit only at the secondary of TR1.

5.3.2 Adjusting the Frequency Doubler

Adjust the resonant circuit TR2-C5-C6 for maximum voltage at 10 MHz. Measure the voltage produced in the circuit only at the secondary of TR2.

Measure the level of the 5-MHz signal at the same points (secondary of TR2) and adjust for minimum using R13.

5.3.3 Adjusting the Output Amplifiers

First of all, tune the resonant circuits (column 2 of table 2) for the associated output amplifiers (column 1) until voltage maximum is obtained at the respective frequencies (column 3). Then adjust the signal levels until $2\ V_{rms}$ ±5% is obtained at the associated outputs (column 4), using the potentiometers listed in the table (column 5). The numbers of column 4 refer to the numbers in Fig. 2.

Measure the voltage produced in the resonant circuit only at the secondary of the transformer.

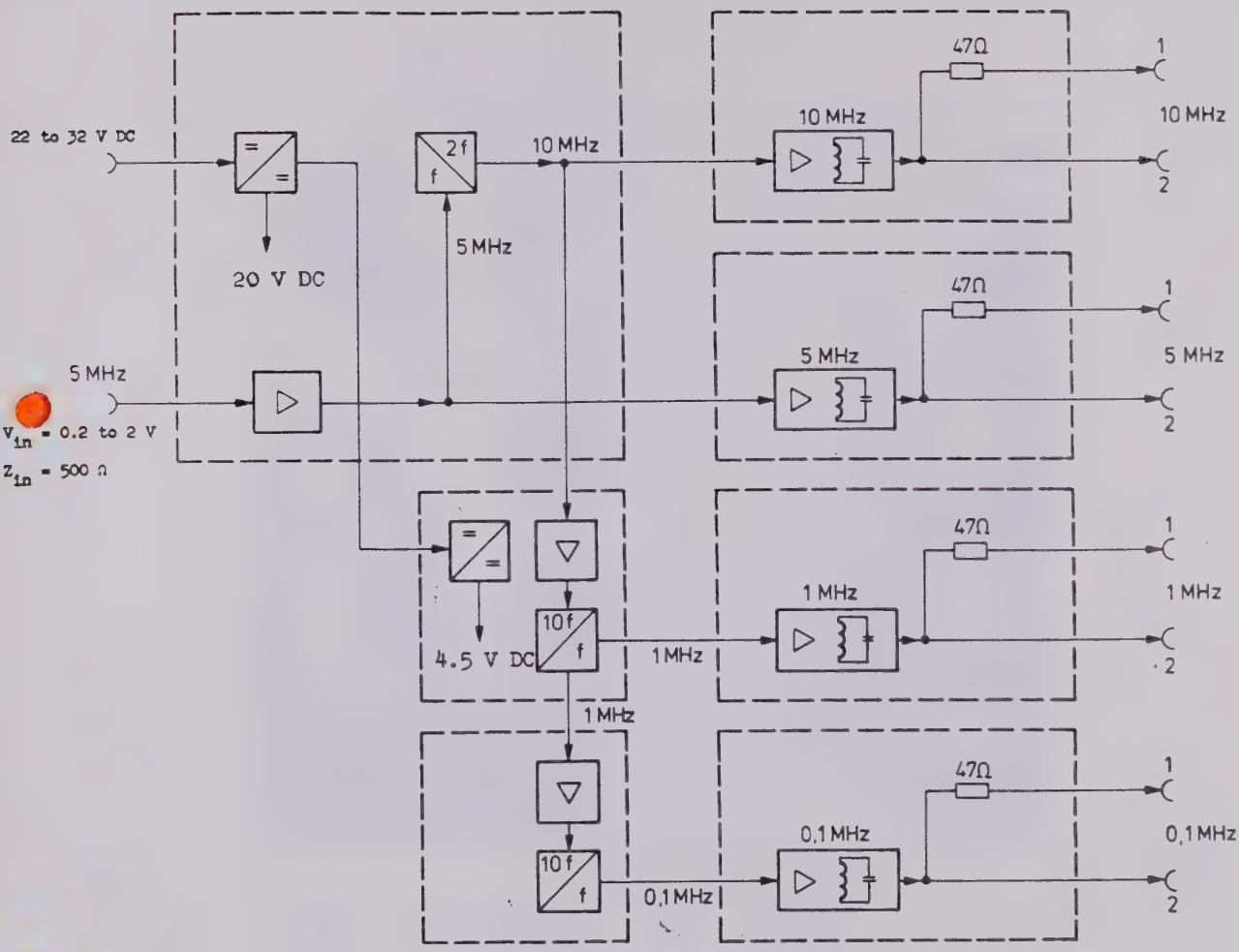
Table 2

Output amplifier 1	Resonant circuit 2	Adjustment for max. voltage at 3	Adjustment of voltages at output 4	with 5
10 MHz 238.1164	TR3-C31-C32	10 MHz	1	R57
5 MHz 238.1212	TR4-C41-C42	5 MHz	2	R77
1 MHz 238.1264	TR5-C53-C54	1 MHz	3	R97
0.1 MHz 238.1312	TR6-C63-C64	0.1 MHz	4	R117

Table 3

Trouble-shooting guide

Symptom: No signal at output				Possible source of fault:	
0.1 MHz	1 MHz	5 MHz	10 MHz		
1	2	3	4	5	
x	x	x	x	5-MHz input frequency not present at socket 7	
x	x	x	x	Supply voltage (22 V to 32 V DC) not present at socket 6	
x	x	x	x	Fuse 5 blown	(M 0,2 C DIN 41571)
x	x	x	x	Voltage stabilizer +20 V	(B3, T20, T21)
x	x	x	x	Input amplifier	(T1, T2, T3)
x	x		x	Frequency doubler	(T4, T5)
x	x			Voltage stabilizer +5 V	(T12, T13)
x	x			Frequency divider 10 MHz/1 MHz	(T10, T11, B1)
x				Frequency divider 1 MHz/0.1 MHz	(T15, T16, B2)
			x	Output amplifier 10 MHz	(T25, T26, T27)
		x		Output amplifier 5 MHz	(T30, T31, T32)
	x			Output amplifier 1 MHz	(T35, T36, T37)
x				Output amplifier 0.1 MHz	(T40, T41, T42)



Outputs on rear panel: Z_s = 100 Ω
Outputs on front panel: Z_s = 50 Ω
} 2 V_{rms} (EMF)

Fig. 1 Block diagram

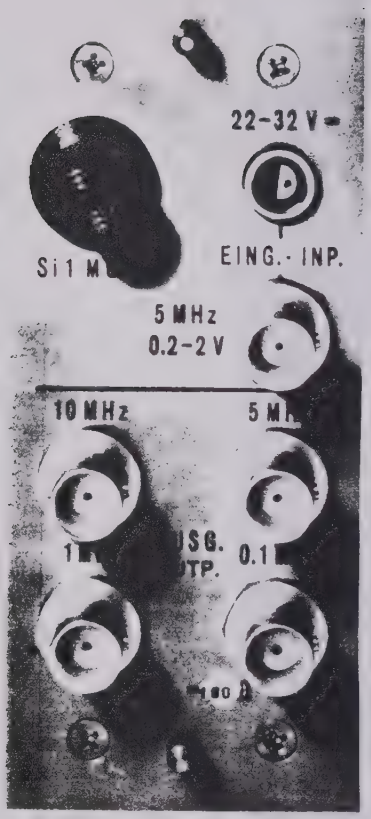


Fig. 3 Rear view

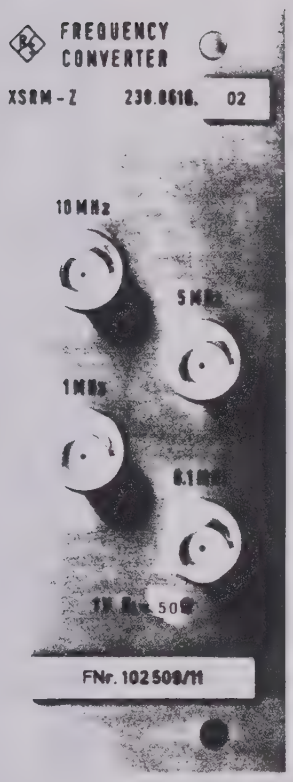
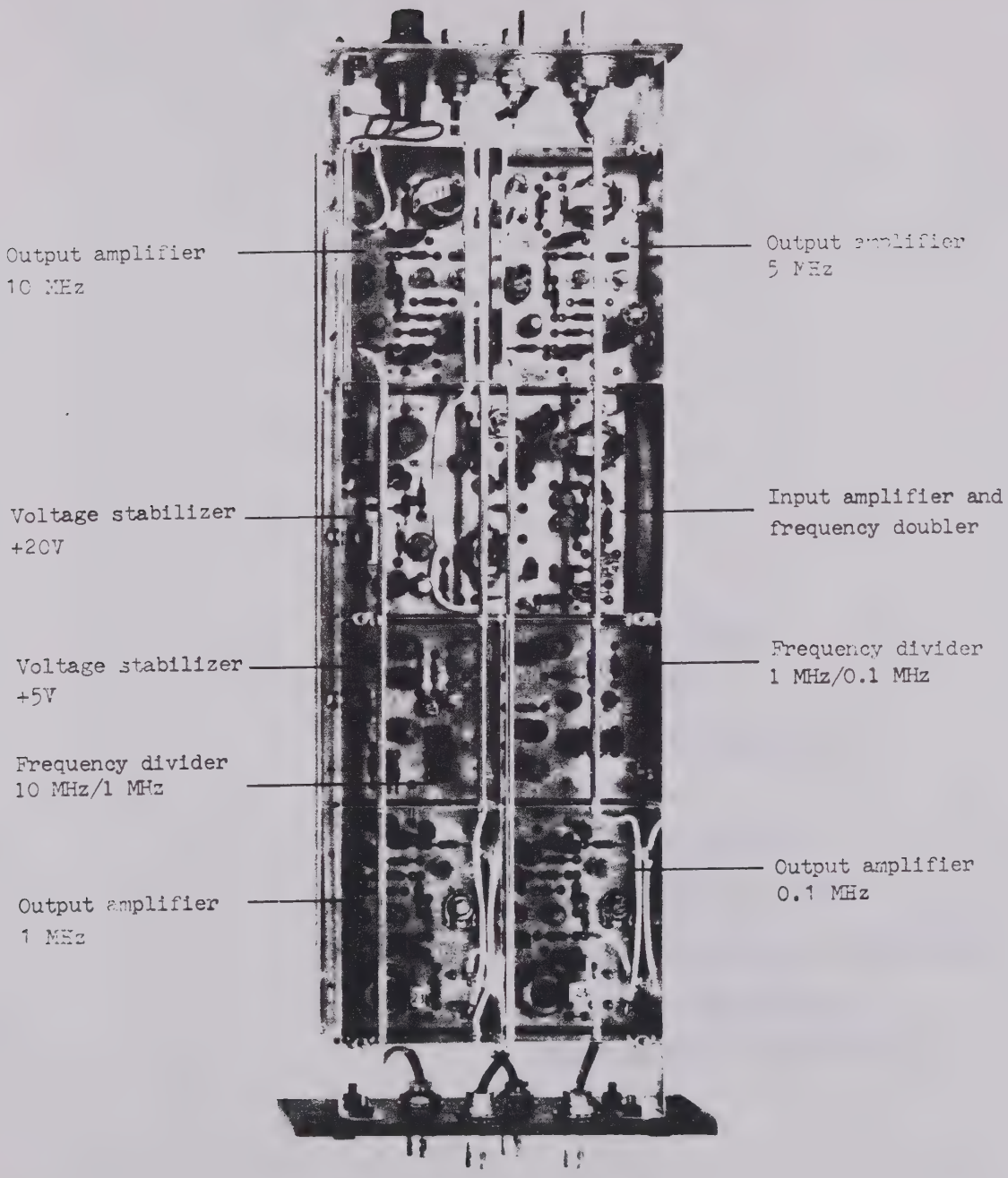


Fig. 2 Front view

Rear panel



Front panel

Fig. 4 Interior of Frequency Converter

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Schaltteillisten
Stromläufe
Bestückungspläne

Part lists
Circuit diagrams
Components plans

Listes des pièces détachées
Schémas de Circuit
Plans des composants

(R 29500 BI 2)
095.1006 BL 2

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R&S-Schlüsselliste
R&S key list
Liste des symboles de référence R&S

Die R&S-Schaltteillisten nennen in der Spalte "Benennung/Beschreibung" die technischen Daten der Bauelemente in Kurzform. Die Art des Bauelements (z.B. Schicht-, Draht-Widerstand usw.) beschreiben die 2 Kennbuchstaben vor der "Benennung" (evtl. auch vor der "Sachnummer"), die nachfolgend erklärt werden. In Ersatzteil-Bestellungen an R&S ist stets die Angabe der vollständigen Sachnummer erforderlich.

The R&S Parts Lists give the technical data of the components in short form in the column "Benennung/Beschreibung" (designation). The type of component (e.g. depos.-carbon resistor, wire-wound resistor etc.) is indicated by 2 identification letters before the designation, possibly also before the "Sachnummer" (order number), which are explained below. When ordering spare parts from R&S, the complete order number must always be specified.

La colonne «Désignation/description» des listes de pièces de R&S indique les caractéristiques des éléments sous forme abrégée. Le type d'élément (p. ex. résistance à couche, résistance bobinée etc. ...) est décrit par les deux lettres précédant la désignation (et éventuellement le numéro de référence), dont voici l'explication. Prière d'indiquer le numéro de référence («Sachnummer») complet dans toute commande de pièces de rechange.

Teile-familie	Art des Bauelementes	Parts family	Type of component	Famille	Type d'élément
A	**Aktive Bauelemente, Halbleiter**	**A**	**Active components, semiconductors**	**A**	**Composants actifs, semiconducteurs**
AD	Universaldiode, z.B. Gleichrichter, Sperrdiode	AD	General-purpose diode, e.g. rectifier, high-resistance diode	AD	Diode d'usage général, p.ex. redresseur, diode à haute résistance
AE	Spezialdiode, z.B. Tunnel-, Kapazitäts-, Zener-Diode	AE	Diode (special), e.g. tunnel diode, varactor, Zener diode	AE	Diode spéciale, p.ex. diode tunnel, varactor, diode Zener
AF	Fotohalbleiter, z.B. Foto-Diode, -Transistor, -Widerstand, Leuchtdiode	AF	Photo-semiconductor, e.g. resistor, diode, transistor, LED	AF	Semiconducteur photoélectrique, p.ex. diode, transistor, résistance photoél., DEL
AG	Leistungs-Gleichrichter, z.B. Thyristor, Triac, Selengleichrichter	AG	Power rectifier, e.g. thyristor, triac, selenium rectifier	AG	Redresseur de puissance, p.ex. thyristor, triac, redresseur, au sélénium
AK	Kleinsignal-Transistor	AK	Small-signal transistor	AK	Transistor faible puissance
AL	Leistungs-Transistor	AL	High-power transistor	AL	Transistor grande puissance
AM	Spezial-Transistor, z.B. FET, MOSFET	AM	Transistor (special), e.g. FET, MOS-FET	AM	Transistor spécial, p.ex. TEC, MOSTEC
AP	Peltier-, Hall-Element	AP	Peltier element, Hall element	AP	Element Peltier, élément Hall
AR	Röhre für Empfänger, Verstärker, Gleichrichter	AR	Valve for receiver, amplifier, rectifier	AR	Tube pour récepteur, amplificateur, redresseur
AS	Spezialröhre, z.B. Senderöhre, EW-Widerstand, Stabilisator	AS	Valve (special), e.g. for transmitter, baretter, ballast valve	AS	Tube (spécial), p.ex. pour émetteur, résistance fer-hydrogène, ballast
AT	Katodenstrahlröhre, z.B. Bildröhre, Ziffern-Anzeigeröhre	AT	Cathode ray tube, e.g. picture tube, digital indicator tube	AT	Tube à rayon cathodique, p.ex. tube à image, tube à affichage numérique
AZ	Zubehör für Halbleiter u. Röhren	AZ	Accessories for semiconductors and valves	AZ	Accessoires pour semiconducteurs et tubes
B	**Bausteine**	**B**	**PC boards, chips**	**B**	**Cartes imprimées, puces**
BC	Integr. Schaltkreis (Microcomp.)	BC	Integrated circuit (interface, A/D)	BC	Circuit intégré (microprocesseur)
BD	R&S-Dünnschicht- und Dickschichtschaltung	BD	R&S thinfilm or thickfilm circuit	BD	Circuit R&S à couche mince ou épaisse
BG	R&S-spezifische Gate-Arrays	BG	R&S gate arrays	BG	Circuits intégrés prédiffusés R&S
BJ	Integrierter Schaltkreis (Interface, A/D-Wandler)	BJ	Integrated circuit (interface, A/D converter)	BJ	Circuit intégré (interface, convertisseur A/N)
BL	Log. Schaltkreis z.B. DTL, TTL, HTL, ECL, C-MOS	BL	Logic circuit, e.g. DTL, TTL, HTL, ECL, C-MOS	BL	Circuit logique, p.ex. DTL, TTL, HTL, ECL, C-MOS
BM	Hybridbaustein, z.B. Mischer, Tuner, Modulator	BM	Hybrid chip, e.g. mixer, tuner, modulator	BM	Puce hybride, p.ex. mélangeur, tuner, modulateur
BO	Analogschaltkreis, z.B. Operationsverstärker	BO	Analog circuit, e.g. operational amplifier	BO	Circuit analogique, p.ex. amplificateur opérationnel
BP	Optoelektronischer Baustein, z.B. Anzeigeeinheit, Koppler	BP	Optoelectronic component, e.g. display, coupler	BP	Composant optoélectronique, p.ex. afficheur, coupleur
BS	Schalt- und Steuerbaustein, elektronischer Sensor	BS	Switching and control modul, electronic sensor	BS	Modul de commutation et de commande, sonde électronique
BV	Stromversorgung, Übersp.-Schutz	BV	Power pack, protective circuit	BV	Alimentation, protection surcharge
BZ	Zubehör	BZ	Accessories	BZ	Accessoires

Teile-familie	Art des Bauelementes	Parts family	Type of component	Famille	Type d'element
C	**Kondensatoren**	**C**	**Capacitors**	**C**	**Condensateurs**
CB	Bypass-, Durchf.-Kondensator	CB	Bypass capacitor, feed-through capacitor	CB	Condensateur bypass, condensateur de traversée
CC	Keramischer Kondensator	CC	Ceramic capacitor	CC	Condensateur céramique
CD	Drehkondensator	CD	Variable capacitor	CD	Condensateur variable
CE	Elektrolytkondensator	CE	Electrolytic capacitor	CE	Condensateur électrolytique
CG	Glimmerkondensator	CG	Mica capacitor	CG	Condensateur au mica
CH	Sperrschichtkondensator	CH	Semiconductor capacitor	CH	Condensateur semiconducteur
CK	Kunstfolienkondensator	CK	Synthetic-foil capacitor	CK	Condensateur à feuille synthétique
CL	Ker. Hochsp.-Kondensator	CL	HV capacitor (ceramic)	CL	Condensateur HT céramique
CM	Metallpapier-Kondensator	CM	MP capacitor	CM	Condensateur à papier métallisé
CN	Kondensatornetzwerk	CN	Capacitor network	CN	Réseau capacitif
CP	Papierkondensator	CP	Paper capacitor	CP	Condensateur au papier
CS	Störschutzkondensator	CS	Interference-suppression capacitor	CS	Condensateur anti-parasite
CT	Trimmkondensator	CT	Trimmer capacitor	CT	Condensateur ajustable
CV	Vakuum-Kondensator	CV	Vacuum capacitor	CV	Condensateur à vide
D	**Drähte, Leitungen**	**D**	**Wires, lines**	**D**	**Fils, lignes**
DD	Schalt- und Wickeldraht	DD	Hook-up or winding wire	DD	Fil de câblage, fil de bobinage
DF	Flachleitung, Litze	DF	Flat multiple line, stranded wire	DF	Ligne plate, ligne torsadée
DG	Abgeschirmte Leitung	DG	Shielded line	DG	Ligne blindé
DH	Koaxialkabel	DH	Coaxial line	DH	Ligne coaxiale
DJ	Isolierschläuche, Schrumpfschläuche, Wellrohre, Schutzschläuche	DJ	Insulating sheaths, shrink-on sleeves, corrugated tubes, protective tubes	DJ	Gaines isolantes, gaines thermorétractables tubes ondulés, gaines protectrices
DL	HF-Litzen	DL	RF stranded wires	DL	Lignes torsadées RF
DM	Schaltlitzen (mehrdrähtige Leiter)	DM	Multi-conductor wires	DM	Lignes torsadées (multiconducteurs)
DN	Antenne	DN	Antenna	DN	Antenne
DO	Lichtleiter (optisch)	DO	Optical waveguides	DO	Guides d'onde optiques
DP	Leiterplatten (unbestückt)	DP	Printed circuit boards (bare)	DP	Cartes imprimées (non équipées)
DQ	Multilayer (unbestückt)	DQ	Multilayer boards (bare)	DQ	Cartes multicouche (non équipées)
DS	Anschlußkabel (mehradrig)	DS	Connecting cable, multicore	DS	Câble de connexion (multiconducteur)
DU	Substratplatten für Dickschichtschaltungen	DU	Substrate boards for thickfilm circuits	DU	Cartes à substrat pour circuits à couche épaisse
DW	Festmantelkabel	DW	Rigid cables	DW	Câbles rigides
E	**Elektrische Teile**	**E**	**Electric parts**	**E**	**Organes électriques**
EB	Blei-, NC-Akku, Batterie	EB	Lead or alkaline accumulator, battery	EB	Accumulateur Pb/NC, batterie
ED	Gedruckte Schaltung (bestückte Leiterplatte), nicht steckbar	ED	Printed circuits (assembled), non-pluggable	ED	Circuits imprimés (équipés) non enfichables
EE	Gedruckte Schaltung (bestückte Leiterplatte), steckbar	EE	Printed circuits (assembled), pluggable	EE	Circuits imprimés (équipés) enfichables
EF	Glühlampe, Leuchte	EF	Incandescent lamp, pilot lamp	EF	Lampe à incandescence, voyant
EG	Glimmlampe, Entladungslampe	EG	Glow lamp, discharge lamp	EG	Lampe à luminescence lampe à décharge
EK	Kontakt-Streifen, -Feder	EK	Contact clip, contact spring	EK	Lampe de contact, ressort de contact
EL	Lautsprecher, Kopfhörer, Mikrofon	EL	Loudspeaker, headphones, microphone	EL	Haut-parleur, casque, microphone
EM	Motor, Hubmagnet, Drehfeldsystem	EM	Motor, lifting magnet, synchro system	EM	Moteur, électro-aimant de levage, système synchro
EO	Oszillator, z.B. Quarzoszillator	EO	Oscillator, e.g. crystal oscillator	EO	Oscillateur p.ex. oscillateur à quartz
EP	Tief-, Band-, Hochpaß, Bandsperre, Diskriminator	EP	Lowpass, bandpass, highpass filter, band-stop filter, discriminator	EP	Filtre passe-bas, passe-bande, passe-haut, suppression de bande, discriminateur
EQ	Schwing-, Filter-Quarz	EQ	Oscillator or filter crystal	EQ	Quartz oscillateur, quartz de filtre
ER	Resonator, piezoelektr./magnetostriktiv	ER	Resonator, piezoelectric/ magnetostrictive	ER	Résonateur piézo-électrique/ magneto-strictif
ES	Passive SHF-Bauteile	ES	Passive SHF-components	ES	Composant SHF passif
ET	Thermostat	ET	Thermostat	ET	Thermostat
EV	Lüfter, Gebläse	EV	Ventilator, blower	EV	Ventilateur, soufflerie

R&S-Schlüsselliste
R&S key list
Liste des symboles de référence R&S

ROHDE&SCHWARZ

Teile-familie	Art des Bauelementes	Parts family	Type of component	Famille	Type d'élément
F	**Fassungen, Steckverbindungen**	**F**	**Sockets, connectors**	**F**	**Douilles, connecteurs**
FG	Koax-Umrüstsatz	FG	Coaxial screw-in assembly	FG	Ensemble vissable coaxial
FH	Koax-Übergang auf Fremdsystem	FH	Coaxial adapter	FH	Adaptateur coaxial
FJ	BNC-Systemteil	FJ	BNC screw-in assembly	FJ	Ensemble vissable BNC
FK	Koaxial-UHF-Systemteil	FK	Coaxial UHF screw-in assembly	FK	Ensemble vissable coaxial UHF
FM	Mehrfachstecker, Buchsenleiste	FM	Multipoint connector	FM	Connecteur multiple
FN	Netz-Steckverbindung	FN	AC-supply connector	FN	Connecteur secteur
FO	Runde Mehrfach-Steckverbindung	FO	Round multipoint connector	FO	Connecteur multipoles rond
FP	Druckschalt-Steckverbindung	FP	Multipoint connector for PC boards	FP	Connecteur multipoles pour cartes imprimees
FR	Fassung für Lampe, Sicherung, usw.	FR	Socket for lamp, fuse, etc.	FR	Douille pour lampe, fusible etc. . . .
FT	Schwachstrom-Steckverbindung	FT	LV plug and socket	FT	Connecteur pour faible courant
FU	Hochspannungs-Steckverbindung	FU	HV plug and socket	FU	Connecteur pour haute tension
FV	Verbinder (z.B. AMP)	FV	Push-on connector	FV	Connecteur à enfichage
FZ	Zubehör für koax. Bauelemente	FZ	Accessories for coax. components	FZ	Accessoires pour composants coax.
H	**Software**	**H**	**Software**	**H**	**Logiciel**
HP	Software-Komponenten und Software-Module	HP	Rights to software components and software modules	HP	Droits d'utilisation de composants et modules logiciel
HS	Auf Informationsträger geladene Software	HS	Software data media	HS	Logiciel sur support d'information
J	**Meßinstrumente**	**J**	**Indicators**	**J**	**Indicateurs**
JD	Drehspul-Anzeigeinstrument	JD	Moving-coil meter	JD	Galvanomètre à cadre mobile
JE	Dreheisen-Anzeigeinstrument	JE	Moving-iron meter	JE	Galvanomètre à fer mobile
JF	Frequenzmesser	JF	Frequency meter	JF	Fréquencemètre
JG	Drehspulinstrument mit Gleichrichter	JG	Moving-coil meter with rectifier	JG	Galvanomètre a cadre mobile avec redresseur
JH	Betriebsstundenzähler	JH	Operating-hours counter	JH	Compteur d'heures de fonctionnement
JJ	Impulszähler	JJ	Pulse counter	JJ	Compteur d'impulsions
JK	Kleinst-Instrument, z.B. Abstimmanzeiger	JK	Mini-instrument, e.g. tuning indicator	JK	Petit indicateur, p.ex. indicateur d'accord
JM	Mechanisches Zählwerk	JM	Mechanical counter	JM	Compteur mécanique
JP	Projektions-Instrument (Leuchtziffer)	JP	Digital display	JP	Afficheur numerique
JQ	Quotientenmesser (Kreuzspulinstrum.)	JQ	Ratiometer (cross coul)	JQ	Quotientmètre (à cadres croisés)
JU	Uhrwerk	JU	Clockwork	JU	Mouvement d'horlogerie
JW	Elektrodyn. Anzeigeinstrument	JW	Electrodynamic meter	JW	Instrument électrodynamique
L	**Induktivitäten, Magnetik**	**L**	**Inductors, magnetic components**	**L**	**Composants inductifs et magnétiques**
LB	Blech- und Schnittbandkern mit Zubehör	LB	Laminated and C-cores with accessories	LB	Noyaux feuilletés et noyaux de type C, avec accessoires
LC	Keramische Spule	LC	Ceramic coil	LC	Bobine céramique
LD	Netz-, HF-Drossel, Df-Filter	LD	Choke, lead-through filter	LD	Self de choc, filtre dé traversée
LE	Einzelkreis, Bandfilter	LE	Single tuned circuit, bandpass filter	LE	Circuit accordé, filtre passe-bande
LF	Ferritkern mit Zubehör	LF	Ferrite cores with accessories	LF	Noyaux en ferrite avec accessoires
LK	Karbonyleisenkern und elektrischer Kupferkern mit Zubehör	LK	Iron carbonyl slugs and copper slugs with accessories	LK	Noyaux en fer carbonyle et en cuivre, avec accessoires
LL	Luftspule	LL	Air-core coils	LL	Bobines à air
LM	Magnetband und -platte	LM	Magnetic tapes and disks	LM	Bandes et disques magnétiques
LS	Schirmbecher	LS	Screening cans	LS	Boîtiers de blindage
LT	Netztransformator	LT	Power transformer	LT	Transformateur secteur
LU	NF-Übertrager	LU	AF transformer	LU	Transformateur BF
LV	Variometer	LV	Variometer	LV	Variomètre
LW	Wickelkörper, allgemein	LW	Coil formers, general	LW	Carcasses de bobine, en général

Teile-familie	Art des Bauelementes	Parts family	Type of component	Famille	Type d'élément
R	**Widerstände**	**R**	**Resistors**	**R**	**Résistances**
RD	Drahtwiderstand	RD	Wire-wound resistor	RD	Résistance bobinée
RF	Kohleschicht-Widerstand	RF	Carbon-film resistor	RF	Résistance à couche de carbone
RG	Metallglasur-Widerstand	RG	Metal-coated resistor	RG	Résistance à couche métallique
RJ	Metalloxyd-Widerstand	RJ	Metal-oxide resistor	RJ	Résistance à oxyde métallique
RK	Kaltleiter, Heißleiter, Varistor	RK	PTC, NTC resistors, varistors	RK	Résistances CPT, CNT, varistors
RL	Metallfilm-Widerstand	RL	Metal-film resistor	RL	Résistance à film métallique
RN	Widerstandsnetzwerk	RN	Resistor network	RN	Réseau de résistance
RR	Draht-Potentiometer	RR	Wire-wound potentiometer	RR	Potentiomètre bobiné
RS	Schicht-Potentiometer	RS	Carbon-film potentiometer	RS	Potentiomètre à couche
RT	Dämpfungsglied, Abschlußwiderstand	RT	Attenuator, termination	RT	Atténuateur, charge
RV	Drahtwiderstand mit Abgriff	RV	Wire-wound resistor, tapped	RV	Résistance bobinée a prise
RW	Wendelpotentiometer	RW	Helical potentiometer	RW	Potentiomètre hélicoidal
S	**Schalter, Relais, Sicherungen**	**S**	**Switches, relays, fuses**	**S**	**Commutateurs, relais, fusibles**
SB	Drucktastenschalter	SB	Pushbutton switch	SB	Commutateur à touche
SD	Drehschalter	SD	Rotary switch	SD	Commutateur rotatif
SF	Kontaktfedersatz	SF	Spring contact assembly	SF	Jeu de ressorts de contact
SH	HF-Koaxialschalter, -Relais, -Teiler	SH	Coaxial RF switch, RF relay, RF attenuator	SH	Commutateur RF coaxial, relais RF, atténuateur RF
SK	Kipp-, Wipp- und Schiebeschalter	SK	Toggle switch, slide switch	SK	Commutateur à bascule, à glissière
SL	Leistungsschalter Netz/HF	SL	AC supply switch, high-power RF switch	SL	Commutateur secteur, de puissance RF
SM	Mikroschalter	SM	Microswitch	SM	Microrupteur
SN	Elektromagnet, Relais	SN	Electromagnetic relay	SN	Relais électromagnétique
SP	Leistungsrelais, Luftschütz	SP	Power relay, air-type contactor	SP	Relais de puissance, contacteur à air
SR	Reedrelais	SR	Reed relay	SR	Relais reed
SS	Sicherung, Schutzschalter	SS	Fuse, automatic cut-out	SS	Fusible, coupe-circuit automatique
ST	Thermoschalter	ST	Thermal circuit breaker	ST	Disjoncteur thermique
SU	Überspannungs-Ableiter	SU	Arrester	SU	Eclateur
SW	Wechselrichter, Näherungsschalter	SW	Inverter (DC-AC), proximity switch	SW	Inverseur (DC-AC), commutateur de proximité
SZ	Zeitschalter	SZ	Time switch	SZ	Interrupteur horaire
V	**Verbindungselemente**	**V**	**Connecting elements**	**V**	**Eléments de raccordement**
VK	Klemme, Klemmleiste	VK	Clamp, terminal strip	VK	Pince, réglette à bornes
VL	Lötöse, Stützpunkt	VL	Soldering lug	VL	Cosse à souder
VS	Schraube, Mutter, Scheibe	VS	Screw, nut, washer	VS	Vis, écrou, disque

Farbcode für Widerstände und Kondensatoren

Anmerkung:
Die Wertangabe der weitgehend miniaturisierten Bauelemente erfolgt überwiegend durch Farbkennzeichnungen, deren Bedeutung der nachfolgenden Tabelle entnommen werden kann.

Hinweis:
Im Zuge des technischen Fortschrittes setzt R&S zunehmend Metallschichtwiderstände mit 1% Toleranz anstelle von Kohleschichtwiderständen mit 5% Toleranz ein. Metallschichtwiderstände können sich dabei an Stellen befinden, an denen gemäß Schaltteilliste Kohleschichtwiderstände vorgesehen sind. Etwaige geringfügige Differenzen der Nennwerte zwischen Stromlaufplan, Schaltteilliste und Gerät liegen im zulässigen Toleranzbereich.

Colour code for resistors and capacitors

Note:
The electrical values of the largely miniaturized components are mainly identified by a colour code, the meaning of which can be taken from the table below.

N. B.:
Following the state of the art R&S makes increasing use of metal-film resistors (1% tolerance) instead of carbon-film resistors (5% tolerance). Metal-film resistors may have been employed where carbon-film resistors are specified in the parts list. Any slight differences of nominal values between circuit diagram, parts list and equipment are within tolerance.

Code couleur pour résistances et condensateurs

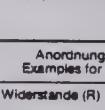
Remarque:
Les valeurs électriques des composants fort miniaturisés sont indiquées dans la plupart des cas par un code couleur dont voici l'explication.

N. B.:
Suivant le progrès technique R&S utilise de plus en plus des résistances à film métallique (tolérance 1%) au lieu des résistances à couche de carbone (tolérance 5%). Des résistances à film metallique peuvent se trouver en des points où des types à couche de carbone figurent dans la liste des composants. Les différences minimes des valeurs nominales existant éventuellement entre le schema de circuit, la liste des composants et l'appareil sont dans la marge de tolérance.

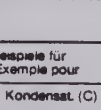
Farbe/Colour/Couleur	A	B	C	D
Schwarz/Black/Noir	—	0		
Braun/Brown/Marron	1	1	0	± 1%
Rot/Red/Rouge	2	2	00	± 2%
Orange/Orange	3	3	000	
Gelb/Yellow/Jaune	4	4	0000	
Grün/Green/Vert	5	5	00000	± 0,5%
Blau/Blue/Bleu	6	6	000000	
Violett/Violet	7	7	—	± 0,1%
Grau/Gray/Gris	8	8	—	
Weiß/White/Blanc	9	9	—	
Gold/Doré	—	—	—	± 5%
Silber/Silver/Argenté	—	—	—	± 10%
Ohne Farbe/No colour/Pas de couleur	—	—	—	± 20%

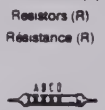
Anordnungsbeispiele für / Examples for / Exemple pour

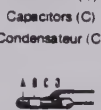
Widerstände (R) / Resistors (R) / Résistance (R)



Kondensat. (C) / Capacitors (C) / Condensateur (C)







1) Toleranzring, hier nicht spezifiziert.

1) Tolerance ring, here not specified.

1) Anneau de tolérance, ne pas spécifié ici.

Definition* / Définition *

Kennzeichen A (Bauteilfarbe/1. Farbring) = 1. Zahl
Kennzeichen B (Bauteilende/2. Farbring) = 2. Zahl
Kennzeichen C (Punkt/3. Farbring) = 3. Zahl = Zahl der Nullen
Kennzeichen D (Punkt/4. Farbring) = Toleranz des Nennwerts in %
(Fehlendes Kennzeichen für D bedeutet ±20%)

Das Fehlen eines Kennzeichens bedeutet, daß die Farbe des Bauteilkörpers die Wertangabe darstellt.

Marking A (body colour or first coloured ring) = 1st digit
Marking B (body end or second coloured ring) = 2nd digit
Marking C (dot or third coloured ring) = number of zeroes
Marking D (dot or fourth coloured ring) = tolerance on nominal value in %
(with no D marking tolerance ± 20%)

The absence of a marking signifies that the body colour gives the corresponding information.

Repérage A (couleur du corps ou 1er anneau) = 1er chiffre
Repérage B (bout du corps ou 2e anneau) = 2e chiffre
Repérage C (point ou 3e anneau) = nombre de zeros.
Repérage D (point ou 4e anneau) = tolérance en % de la valeur nominale
(L'absence du repérage D signifie ± 20%)

L'absence de tout repérage signifie que la couleur du corps du composant représente la valeur correspondante.

* Siehe auch DIN 41 429 und DIN 40 825

* see also IEC publication 62-1952 and 62-1968

* Voir aussi DIN 41 429 et DIN 40 825

Kennz. Comp.No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
B1	BL SN5490AJ DEZ.COUNTER COUNTER		418.1283	TEXAS	SN5490AJ	238.1064
B2	BL SN54LS90J DEC.COUNTER IC DECADE COUNTER SN54LS9		289.4725	TEXAS	SN54LS90J	238.1112
B3	BO UA741HM OPAMP OPERATIONAL AMPLIFIER		009.1300	NAT. SEMIC	LM741H	238.1012
BU1	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K1	FJ	017.6636	ROSENBERG	51K506-003B3	238.1412
BU2	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K2	FJ	017.6636	ROSENBERG	51K506-003B3	238.1429
BU3	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K3	FJ	017.6636	ROSENBERG	51K506-003B3	238.1435
BU4	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K4	FJ	017.6636	ROSENBERG	51K506-003B3	238.1441
BU5	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K5	FJ	017.6636	ROSENBERG	51K506-003B3	238.1458
BU6	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K6	FJ	017.6636	ROSENBERG	51K506-003B3	238.1464
BU7	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K7	FJ	017.6636	ROSENBERG	51K506-003B3	238.1470
BU8	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K8	FJ	017.6636	ROSENBERG	51K506-003B3	238.1487
BU9	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K9	FJ	017.6636	ROSENBERG	51K506-003B3	238.1493
BU10	FO EINBAUBUCHSE 2 POLIG 2-POLE FIXED SOCKET		070.4140	LEMOSA	RA0302	
C1	CC 1 NF+50-20%5HDK4000 CERAMIC CAPACITOR		006.0490	VALVO	2222 655 53102	238.1012
C2	CC 1 NF+50-20%5HDK4000 CERAMIC CAPACITOR		006.0490	VALVO	2222 655 53102	238.1012
C3	CC 100PF+- 5%100V NPO VIE CERAMIC CAPACITOR	CC	060.0771	UNIONCARB	C052C101J2G1CA	238.1012
C4	CC 10PF+-10%200V5K1200VIE CAPACITOR TRIMMWERT"	CC	084.5138	UNION CARB	CK05BX100K	238.1012
C6	CC 100PF+- 5%100V NPO VIE CERAMIC CAPACITOR	CC	060.0771	UNIONCARB	C052C101J2G1CA	238.1012
C7	CC 1 NF+50-20%5HDK4000 CERAMIC CAPACITOR		006.0490	VALVO	2222 655 53102	238.1012
C8	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1012
C10	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1064
C11	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1064
C15	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1112
C16	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1112
C20	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1012
C21	CE 100UF-10+50% 40V 13X17 ELECTROLYTIC CAPACITOR	CE	022.7595	SIEMENS	B41316-B7107-Z	238.1012
C22	CC 100NF+-10%100V K1200VI CERAMIC CAPACITOR		060.1149	UNION CARB	CK06BX104K	238.1012
C30	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR		022.0678	VALVO	2222 640 53103	238.1164
C31	CC 47PF+-10%200V5K1200VIE CAPACITOR	CC	084.5215	UNION CARB	CK05BX470K	238.1164
C32	CC 15PF+-10%200V5K1200VIE CAPACITOR TRIMMWERT"	CC	084.5150	UNION CARB	CK05BX150K	238.1164
C33	CC 270PF+- 5%100V NPO VIE CERAMIC CAPACITOR	CC	060.0820	UNIONCARB	C052C271J2G1CA	238.1164
C34	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR		022.0678	VALVO	2222 640 53103	238.1164
C35	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1164

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Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C36	CC 68PF+-10%200V5K1200VIE CAPACITOR PARALLEL ZU C33	CC 084.5238	UNION CARB	CK05BX680K	238.1164
C37	CC 270PF+- 5%100V NPO VIE CERAMIC CAPACITOR	CC 060.0820	UNIONCARB	C052C271J2G1CA	238.1164
C40	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1212
C41	CC 82PF+- 5%100V NPO VIEL CERAMIC CAPACITOR	CC 060.0765	UNIONCARB	C052C820J1G5CA	238.1212
C42	CC 39PF+-10%200V5K1200VIE CAPACITOR TRIMMWERT"	084.5209	UNION CARB	CK05BX390K	238.1212
C43	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1212
C44	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE 006.7120	ROEDERST	EKM 00 CB 222 J	238.1212
C50	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1264
C51	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE 006.7120	ROEDERST	EKM 00 CB 222 J	238.1264
C52	CC 100PF+-20% HDK700 RD5 CERAMIC CAPACITOR	006.0431	VALVO	2222 655 53101	238.1264
C53	CC 560PF+- 5%100V NPO VIE CERAMIC CAPACITOR	060.0865	THOMSON	CLC908-560PF+5%	238.1264
C55	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1264
C60	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1312
C61	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE 006.7120	ROEDERST	EKM 00 CB 222 J	238.1312
C62	CC 220PF+-20% HDK2000 RD5 CERAMIC CAPACITOR	006.0454	VALVO	2222 655 53221	238.1312
C63	CC 5,6NF+- 5%100V NPO VIE CAPACITOR	060.0988	ERIE	8737-100-COG-5,6NF-J	238.1312
C64	CC 560PF+-10%200V5K1200VI CAPACITOR TRIMMWERT"	082.7462	UNION CARB	CK05BX561K	238.1312
C65	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1312
GL1	AD 1N4151 50V 0A2 UDI DIODE	AD 012.0723	AEG-TELEF.	1N4151	238.1012
GL2	AD 1N4151 50V 0A2 UDI DIODE	AD 012.0723	AEG-TELEF.	1N4151	238.1012
GL5	AE 1N823 6,2V REFDI REFERENCE DIODE	012.2278	CDI	1N823	238.1012
GL6	AE BZX79/C15 0,5W ZDI ZENER DIODE	AE 012.2555	VALVO	BZX79/C15 GEGURTET	238.1012
GL7	AG 1N4007 GL1000V 1A0 RECTIFIER	AG 013.0310	AEG-TELEF	1N4007	238.1012
K1	DX KABEL	238.1412			238.1393
K2	DX KABEL	238.1429			238.1393
K3	DX KABEL	238.1435			238.1393
K4	DX KABEL	238.1441			238.1393
K5	DX KABEL	238.1458			238.1393
K6	DX KABEL	238.1464			238.1393
K7	DX KABEL	238.1470			238.1393
K8	DX KABEL	238.1487			238.1393
K9	DX KABEL	238.1493			238.1393
L1	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1012
L2	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1064
L3	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1112
L4	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1112
L5	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1012
L10	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1164
L11	LD 1,5UH 20% 0,9 A OR6 CHOKE	026.3159	JAHRE	74.11-1R50M	238.1164
L15	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1212

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L20	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1264
L21	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1264
L25	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1312
R1	RL 0,35W 475 OHM+-1%TK50 RESISTOR	RL 083.0390	DRALORIC	SMA0207/475OHM-F-D	238.1012
R2	RL 0,35W 475 OHM+-1%TK50 RESISTOR	RL 083.0390	DRALORIC	SMA0207/475OHM-F-D	238.1012
R3	RL 0,35W 2,74KOHM+-1%TK50 RESISTOR	RL 083.0926	DRALORIC	SMA0207/2,74K-F-D	238.1012
R4	RL 0,35W22,10 OHM+-1%TK50 RESISTOR	RL 082.9188	DRALORIC	SMA0207/22,1OHM-F-D	238.1012
R5	RL 0,35W 2,74KOHM+-1%TK50 RESISTOR	RL 083.0926	DRALORIC	SMA0207/2,74K-F-D	238.1012
R6	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	238.1012
R7	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,5OHM-F-D	238.1012
R8	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	238.1012
R9	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,5OHM-F-D	238.1012
R10	RL 0,35W 3,92KOHM+-1%TK50 RESISTOR	RL 083.1039	RESISTA	MK2	238.1012
R11	RL 0,35W22,10 OHM+-1%TK50 RESISTOR	RL 082.9188	DRALORIC	SMA0207/22,1OHM-F-D	238.1012
R12	RL 0,35W 562 OHM+-1%TK50 RESISTOR	RL 083.0461	DRALORIC	SMA0207/562OHM-F-D	238.1012
R13	RS 0,5W 2200HM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	066.8622	RUF	0650-655-2200HM+-20%	238.1012
R14	RL 0,35W 562 OHM+-1%TK50 RESISTOR	RL 083.0461	DRALORIC	SMA0207/562OHM-F-D	238.1012
R15	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,5OHM-F-D	238.1012
R16	RL 0,35W 2,74KOHM+-1%TK50 RESISTOR	RL 083.0926	DRALORIC	SMA0207/2,74K-F-D	238.1012
R20	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,5OHM-F-D	238.1064
R21	RL 0,35W 3,32KOHM+-1%TK50 RESISTOR	RL 083.0990	DRALORIC	SMA0207/3,32K-F-D	238.1064
R22	RL 0,35W 681 OHM+-1%TK50 RESISTOR	RL 083.0490	DRALORIC	SMA0207/681OHM-F-D	238.1064
R23	RL 0,35W 19,1KOHM+-1%TK50 RESISTOR TRIMMWERT	RL 083.1500	DRALORIC	SMA/207/19,1K-F-C	238.1064
R24	RL 0,35W 3,92KOHM+-1%TK50 RESISTOR	RL 083.1039	RESISTA	MK2	238.1064
R25	RL 0,35W 10,OKOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	238.1064
R26	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	238.1064
R30	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	238.1112
R31	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	238.1112
R32	RL 0,35W 15,OKOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMA0207/15K-F-D	238.1112
R33	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	238.1112
R40	RL 0,35W 37,4KOHM+-1%TK50 RESISTOR TRIMMWERT	RL 083.1722	DRALORIC	SMA/207/37,4K-F-C	238.1012
R41	RL 0,35W 8,25KOHM+-1%TK50 RESISTOR	RL 083.1239	DRALORIC	SMA0207/8,25K-F-D	238.1012
R42	RL 0,35W 15,OKOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMA0207/15K-F-D	238.1012
R43	RF 0,5 W 1,2 KOHM +-5% DEPOS.-CARBON RESISTOR	007.1383	RESISTA	SK4/1,2K5%	238.1012
R44	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	238.1012
R45	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1012
R46	RL 0,35W 392 OHM+-1%TK50 RESISTOR	RL 082.2183	DRALORIC	SMA0207/392K-F-C	238.1012

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Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R50	RL 0,35W 100 OHM+-1%TK50 RESISTOR	RL 082.6543	DRALORIC	SMA0207/100/HM-F-D	238.1164
R51	RL 0,35W 10KOHM+-5%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA/207/47,5K-F-C	238.1164
R52	RL 0,35W 82,5KOHM+-1%TK50 RESISTOR	RL 082.2302	DRALORIC	SMA0207/82,5K-F-C	238.1164
R53	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	238.1164
R54	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1164
R55	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/100HM-F-D	238.1164
R56	RL 0,35W 56 OHM+-5%TK50 RESISTOR	RL 082.9571	DRALORIC	SMA 0207/8250HM-F-C	238.1164
R57	RS 0,5W 500OHM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	191.0000	RUF	0650-655-2,2KOHM+-20	238.1164
R58	RL 0,35W 10.0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/100HM-F-D	238.1164
R59	RF 0,25W330 OHM +-5% RESISTOR TRIMMWERT	069.3315	DRALORIC	LCA0207/+-5%330	238.1164
R60	RF 0,25W 47 OHM +-5% RESISTOR	069.4705	DRALORIC	LCA0207/+-5%47	238.1164
R70	RL 0,35W 100 OHM+-1%TK50 RESISTOR	RL 082.6543	DRALORIC	SMA0207/100/HM-F-D	238.1212
R71	RL 0,35W 10KOHM+-5%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA/207/47,5K-F-C	238.1212
R72	RL 0,35W 82,5KOHM+-1%TK50 RESISTOR	RL 082.2302	DRALORIC	SMA0207/82,5K-F-C	238.1212
R73	RL 0,35W 15,0KOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMA0207/15K-F-D	238.1212
R74	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1212
R75	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/100HM-F-D	238.1212
R76	RL 0,35W 56 OHM+-5%TK50 RESISTOR	RL 082.9571	DRALORIC	SMA 0207/8250HM-F-C	238.1212
R77	RS 0,5W 500OHM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	191.0000	RUF	0650-655-2,2KOHM+-20	238.1212
R78	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/100HM-F-D	238.1212
R79	RL 0,35W 68,1 OHM+-1%TK50 RESISTOR	RL 082.9636	DRALORIC	SMA0207/68,10HM-F-D	238.1212
R80	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,50HM-F-D	238.1212
R90	RL 0,35W 475 OHM+-1%TK50 RESISTOR	RL 083.0390	DRALORIC	SMA0207/4750HM-F-D	238.1264
R91	RL 0,35W 10KOHM+-5%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA/207/47,5K-F-C	238.1264
R92	RL 0,35W 82,5KOHM+-1%TK50 RESISTOR	RL 082.2302	DRALORIC	SMA0207/82,5K-F-C	238.1264
R93	RL 0,35W 15,0KOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMA0207/15K-F-D	238.1264
R94	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1264
R95	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/100HM-F-D	238.1264
R96	RL 0,35W 100 OHM+-5%TK50 RESISTOR	RL 082.6543	DRALORIC	SMA 0207/8250HM-F-C	238.1264
R97	RS 0,5W 500OHM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	191.0000	RUF	0650-655-2,2KOHM+-20	238.1264
R98	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/100HM-F-D	238.1264
R99	RL 0,35W 56,2 OHM+-1%TK50 RESISTOR	RL 082.9571	DRALORIC	SMA0207/56,20HM-F-D	238.1264
R100	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,50HM-F-D	238.1264
R110	RL 0,35W 475 OHM+-1%TK50 RESISTOR	RL 083.0390	DRALORIC	SMA0207/4750HM-F-D	238.1312
R111	RL 0,35W 10OHM+-5%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA/207/47,5K-F-C	238.1312
R112	RL 0,35W 82,5KOHM+-1%TK50 RESISTOR	RL 082.2302	DRALORIC	SMA0207/82,5K-F-C	238.1312
R113	RL 0,35W 15,0KOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMA0207/15K-F-D	238.1312
R114	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1312

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R115	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/100HM-F-D	238.1312
R116	RL 0,35W 100 OHM+-1%TK50 RESISTOR	RL 082.6543	DRALORIC	SMA 0207/8250HM-F-C	238.1312
R117	RS 0,5W 5000HM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	191.0000	RUF	0650-655-2,2KOHM+-20	238.1312
R118	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/100HM-F-D	238.1312
R119	RL 0,35W 56,2 OHM+-1%TK50 RESISTOR	RL 082.9571	DRALORIC	SMA0207/56,20HM-F-D	238.1312
R120	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,50HM-F-D	238.1312
SI1	SS SCHMELZS.M200CDIN41571 FUSE	SS 020.7223	WICKMANN	MO,2CDIN41571TROP.	238.1370
T1	AK 2N2369A N 15V 200MA TRANSISTOR	AK 010.4680	VALVO	2N2369A	238.1012
T2	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1012
T3	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1012
T4	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1012
T5	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1012
T10	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1064
T11	AK 2N2369A N 15V 200MA TRANSISTOR	AK 010.4680	VALVO	2N2369A	238.1064
T12	AL BD235 N 60V 2A0 TRANSISTOR	010.0903	VALVO	BD235	238.1064
T13	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1064
T15	AK 2N2369A N 15V 200MA TRANSISTOR	AK 010.4680	VALVO	2N2369A	238.1112
T16	AK 2N2369A N 15V 200MA TRANSISTOR	AK 010.4680	VALVO	2N2369A	238.1112
T20	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1012
T21	AL BD236 P 60V 1A0 TRANSISTOR	AL 010.0361	VALVO	BD236	238.1012
T25	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1164
T26	AK 2N5109 N 45V 500MA TRANSISTOR	AK 010.0761	VALVO	BCY59IX	238.1164
T27	AK 2N5109 N 45V 500MA TRANSISTOR	AK 010.0761	VALVO	BCY59IX	238.1164
T30	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1212
T31	AK 2N5109 N 45V 500MA TRANSISTOR	AK 010.0761	VALVO	BCY59IX	238.1212
T32	AK 2N5109 N 45V 500MA TRANSISTOR	AK 010.0761	VALVO	BCY59IX	238.1212
T35	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1264
T36	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1264
T37	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1264
T40	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1312
T41	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1312
T42	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1312
TR1	LU UEBERTRAGER TRANSFORMER	238.1035			238.1012
TR2	LU UEBERTRAGER TRANSFORMER	238.1041			238.1012
TR3	LU UEBERTRAGER TRANSFORMER	238.1187			238.1164
TR4	LU UEBERTRAGER TRANSFORMER	238.1235			238.1212
TR5	LU UEBERTRAGER TRANSFORMER	238.1287			238.1264
TR6	LU UEBERTRAGER TRANSFORMER	238.1335			238.1312
					- ENDE -

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ROHDE&SCHWARZ

Schaltteillisten
Stromläufe
Bestückungspläne

Part lists
Circuit diagrams
Components plans

Listes des pièces détachées
Schémas de Circuit
Plans des composants

(R 29500 Bl. 2)
095.1000 Bl. 2

ROHDE&SCHWARZ

R&S-Schlüsselliste
R&S key list
Liste des symboles de référence R&S

Die R&S-Schaltteillisten nennen in der Spalte "Benennung/Beschreibung" die technischen Daten der Bauelemente in Kurzform. Die Art des Bauelements (z.B. Schicht-, Draht-Widerstand usw.) beschreiben die 2 Kennbuchstaben vor der "Benennung" (evtl. auch vor der "Sachnummer"), die nachfolgend erklärt werden. In Ersatzteil-Bestellungen an R&S ist stets die Angabe der vollständigen Sachnummer erforderlich.

The R&S Parts Lists give the technical data of the components in short form in the column "Benennung/Beschreibung" (designation). The type of component (e.g. depos.-carbon resistor, wire-wound resistor etc.) is indicated by 2 identification letters before the designation, possibly also before the "Sachnummer" (order number), which are explained below. When ordering spare parts from R&S, the complete order number must always be specified.

La colonne «Désignation/description» des listes de pièces de R&S indique les caractéristiques des éléments sous forme abrégée. Le type d'élément (p. ex. résistance à couche, résistance bobinée etc....) est décrit par les deux lettres précédant la désignation (et éventuellement le numéro de référence), dont voici l'explication. Prière d'indiquer le numéro de référence («Sachnummer») complet dans toute commande de pièces de rechange.

Teile-familie	Art des Bauelementes	Parts family	Type of component	Famille	Type d'élément
A	**Aktive Bauelemente, Halbleiter**	**A**	**Active components, semiconductors**	**A**	**Composants actifs, semiconducteurs**
AD	Universaldiode, z.B. Gleichrichter, Sperrdiode	AD	General-purpose diode, e.g. rectifier, high-resistance diode	AD	Diode d'usage général, p.ex. redresseur, diode à haute résistance
AE	Spezialdiode, z.B. Tunnel-, Kapazitäts-, Zener-Diode	AE	Diode (special), e.g. tunnel diode, varactor, Zener diode	AE	Diode spéciale, p.ex. diode tunnel, varactor, diode Zener
AF	Fotohalbleiter, z.B. Foto-Diode, -Transistor, -Widerstand, Leuchtdiode	AF	Photo-semiconductor, e.g. resistor, diode, transistor; LED	AF	Semiconducteur photoélectrique, p.ex. diode, transistor, résistance photoél., DEL
AG	Leistungs-Gleichrichter, z.B. Thyristor, Triac, Selengleichrichter	AG	Power rectifier, e.g. thyristor, triac, selenium rectifier	AG	Redresseur de puissance, p.ex. thyristor, triac, redresseur, au sélénium
AK	Kleinsignal-Transistor	AK	Small-signal transistor	AK	Transistor faible puissance
AL	Leistungs-Transistor	AL	High-power transistor	AL	Transistor grande puissance
AM	Spezial-Transistor, z.B. FET, MOSFET	AM	Transistor (special), e.g. FET, MOS-FET	AM	Transistor spécial, p.ex. TEC, MOSTEC
AP	Peltier-, Hall-Element	AP	Peltier element, Hall element	AP	Element Peltier, élement Hall
AR	Röhre für Empfänger, Verstärker, Gleichrichter	AR	Valve for receiver, amplifier, rectifier	AR	Tube pour récepteur, amplificateur, redresseur
AS	Spezialröhre, z.B. Senderöhre, EW-Widerstand, Stabilisator	AS	Valve (special), e.g. for transmitter, baretter, ballast valve	AS	Tube (spécial), p.ex. pour émetteur, résistance fer-hydrogène, ballast
AT	Katodenstrahlröhre, z.B. Bildröhre, Ziffern-Anzeigeröhre	AT	Cathode ray tube, e.g. picture tube, digital indicator tube	AT	Tube à rayon cathodique, p.ex. tube à image, tube à affichage numérique
AZ	Zubehör für Halbleiter u. Röhren	AZ	Accessories for semiconductors and valves	AZ	Accessoires pour semiconducteurs et tubes
B	**Bausteine**	**B**	**PC boards, chips**	**B**	**Cartes imprimées, puces**
BC	Integr. Schaltkreis (Microcomp.)	BC	Integrated circuit (interface, A/D)	BC	Circuit intégré (microprocesseur)
BD	R&S-Dünnschicht- und Dickschichtschaltung	BD	R&S thinfilm or thickfilm circuit	BD	Circuit R&S à couche mince ou épaisse
BG	R&S-spezifische Gate-Arrays	BG	R&S gate arrays	BG	Circuits intégrés prédiffusés R&S
BJ	Integrierter Schaltkreis (Interface, A/D-Wandler)	BJ	Integrated circuit (interface, A/D converter)	BJ	Circuit intégré (interface, convertisseur A/N)
BL	Log. Schaltkreis z.B. DTL, TTL, HTL, ECL, C-MOS	BL	Logic circuit, e.g. DTL, TTL, HTL, ECL, C-MOS	BL	Circuit logique, p.ex. DTL, TTL, HTL, ECL, C-MOS
BM	Hybridbaustein, z.B. Mischer, Tuner, Modulator	BM	Hybrid chip, e.g. mixer, tuner, modulator	BM	Puce hybride, p.ex. mélangeur, tuner, modulateur
BO	Analogschaltkreis, z.B. Operationsverstärker	BO	Analog circuit, e.g. operational amplifier	BO	Circuit analogique. p.ex. amplificateur opérationnel
BP	Optoelektronischer Baustein, z.B. Anzeigeeinheit, Koppler	BP	Optoelectronic component, e.g. display, coupler	BP	Composant optoélectronique, p.ex. afficheur, coupleur
BS	Schalt- und Steuerbaustein, elektronischer Sensor	BS	Switching and control modul, electronic sensor	BS	Modul de commutation et de commande, sonde électronique
BV	Stromversorgung, Übersp.-Schutz	BV	Power pack, protective circuit	BV	Alimentation, protection surcharge
BZ	Zubehör	BZ	Accessories	BZ	Accessoires

Teile-familie	Art des Bauelementes	Parts family	Type of component	Famille	Type d'élément
C	**Kondensatoren**	**C**	**Capacitors**	**C**	**Condensateurs**
CB	Bypass-, Durchf.-Kondensator	CB	Bypass capacitor, feed-through capacitor	CB	Condensateur bypass, condensateur de traversée
CC	Keramischer Kondensator	CC	Ceramic capacitor	CC	Condensateur céramique
CD	Drehkondensator	CD	Variable capacitor	CD	Condensateur variable
CE	Elektrolytkondensator	CE	Electrolytic capacitor	CE	Condensateur électrolytique
CG	Glimmerkondensator	CG	Mica capacitor	CG	Condensateur au mica
CH	Sperrschichtkondensator	CH	Semiconductor capacitor	CH	Condensateur semiconducteur
CK	Kunstfolienkondensator	CK	Synthetic-foil capacitor	CK	Condensateur à feuille synthétique
CL	Ker. Hochsp.-Kondensator	CL	HV capacitor (ceramic)	CL	Condensateur HT céramique,
CM	Metallpapier-Kondensator	CM	MP capacitor	CM	Condensateur à papier métallisé
CN	Kondensatornetzwerk	CN	Capacitor network	CN	Réseau capacitif
CP	Papierkondensator	CP	Paper capacitor	CP	Condensateur au papier
CS	Störschutzkondensator	CS	Interference-suppression capacitor	CS	Condensateur anti-parasite
CT	Trimmkondensator	CT	Trimmer capacitor	CT	Condensateur ajustable
CV	Vakuum-Kondensator	CV	Vacuum capacitor	CV	Condensateur à vide
D	**Drähte, Leitungen**	**D**	**Wires, lines**	**D**	**Fils, lignes**
DD	Schalt- und Wickeldraht	DD	Hook-up or winding wire	DD	Fil de câblage, fil de bobinage
DF	Flachleitung, Litze	DF	Flat multiple line, stranded wire	DF	Ligne plate, ligne torsadée
DG	Abgeschirmte Leitung	DG	Shielded line	DG	Ligne blindé
DH	Koaxialkabel	DH	Coaxial line	DH	Ligne coaxiale
DJ	Isolierschläuche, Schrumpfschläuche, Wellrohre, Schutzschläuche	DJ	Insulating sheaths, shrink-on sleeves, corrugated tubes, protective tubes	DJ	Gaines isolantes, gaines thermorétractables tubes ondulés, gaines protectrices
DL	HF-Litzen	DL	RF stranded wires	DL	Lignes torsadées RF
DM	Schaltlitzen (mehrdrähtige Leiter)	DM	Multi-conductor wires	DM	Lignes torsadées (multiconducteurs)
DN	Antenne	DN	Antenna	DN	Antenne
DO	Lichtleiter (optisch)	DO	Optical waveguides	DO	Guides d'onde optiques
DP	Leiterplatten (unbestückt)	DP	Printed circuit boards (bare)	DP	Cartes imprimées (non équipées)
DQ	Multilayer (unbestückt)	DQ	Multilayer boards (bare)	DQ	Cartes multicouche (non équipées)
DS	Anschlußkabel (mehradrig)	DS	Connecting cable, multicore	DS	Câble de connexion (multiconducteur)
DU	Substratplatten für Dickschichtschaltungen	DU	Substrate boards for thickfilm circuits	DU	Cartes à substrat pour circuits à couche épaisse
DW	Festmantelkabel	DW	Rigid cables	DW	Câbles rigides
E	**Elektrische Teile**	**E**	**Electric parts**	**E**	**Organes électriques**
EB	Blei-, NC-Akku, Batterie	EB	Lead or alkaline accumulator, battery	EB	Accumulateur Pb/NC, batterie
ED	Gedruckte Schaltung (bestückte Leiterplatte), nicht steckbar	ED	Printed circuits (assembled), non-pluggable	ED	Circuits imprimés (équipés) non enfichables
EE	Gedruckte Schaltung (bestückte Leiterplatte), steckbar	EE	Printed circuits (assembled), pluggable	EE	Circuits imprimés (équipés) enfichables
EF	Glühlampe, Leuchte	EF	Incandescent lamp, pilot lamp	EF	Lampe à incandescence, voyant
EG	Glimmlampe, Entladungslampe	EG	Glow lamp, discharge lamp	EG	Lampe à luminescence lampe à décharge
EK	Kontakt-Streifen, -Feder	EK	Contact clip, contact spring	EK	Lampe de contact, ressort de contact
EL	Lautsprecher, Kopfhörer, Mikrofon	EL	Loudspeaker, headphones, microphone	EL	Haut-parleur, casque, microphone
EM	Motor, Hubmagnet, Drehfeldsystem	EM	Motor, lifting magnet, synchro system	EM	Moteur, électro-aimant de levage, système synchro
EO	Oszillator, z.B. Quarzoszillator	EO	Oscillator, e.g. crystal oscillator	EO	Oscillateur p.ex. oscillateur à quartz
EP	Tief-, Band-, Hochpaß, Bandsperre, Diskriminator	EP	Lowpass, bandpass, highpass filter, band-stop filter, discriminator	EP	Filtre passe-bas, passe-bande, passe-haut, suppression de bande, discriminateur
EQ	Schwing-, Filter-Quarz	EQ	Oscillator or filter crystal	EQ	Quartz oscillateur, quartz de filtre
ER	Resonator, piezoelektr./magnetostriktiv	ER	Resonator, piezoelectric/ magnetostrictive	ER	Résonateur piézo-électrique/ magneto-strictif
ES	Passive SHF-Bauteile	ES	Passive SHF-components	ES	Composant SHF passif
ET	Thermostat	ET	Thermostat	ET	Thermostat
EV	Lüfter, Gebläse	EV	Ventilator, blower	EV	Ventilateur, soufflerie

Teile-familie	Art des Bauelementes	Parts family	Type of component	Famille	Type d'élément
F	**Fassungen, Steckverbindungen**	**F**	**Sockets, connectors**	**F**	**Douilles, connecteurs**
FG	Koax-Umrüstsatz	FG	Coaxial screw-in assembly	FG	Ensemble vissable coaxial
FH	Koax-Übergang auf Fremdsystem	FH	Coaxial adapter	FH	Adaptateur coaxial
FJ	BNC-Systemteil	FJ	BNC screw-in assembly	FJ	Ensemble vissable BNC
FK	Koaxial-UHF-Systemteil	FK	Coaxial UHF screw-in assembly	FK	Ensemble vissable coaxial UHF
FM	Mehrfachstecker, Buchsenleiste	FM	Multipoint connector	FM	Connecteur multiple
FN	Netz-Steckverbindung	FN	AC-supply connector	FN	Connecteur secteur
FO	Runde Mehrfach-Steckverbindung	FO	Round multipoint connector	FO	Connecteur multipoles rond
FP	Druckschalt-Steckverbindung	FP	Multipoint connector for PC boards	FP	Connecteur multipoles pour cartes imprimées
FR	Fassung für Lampe, Sicherung, usw.	FR	Socket for lamp, fuse, etc.	FR	Douille pour lampe, fusible etc. . . .
FT	Schwachstrom-Steckverbindung	FT	LV plug and socket	FT	Connecteur pour faible courant
FU	Hochspannungs-Steckverbindung	FU	HV plug and socket	FU	Connecteur pour haute tension
FV	Verbinder (z.B. AMP)	FV	Push-on connector	FV	Connecteur à enfichage
FZ	Zubehör für koax. Bauelemente	FZ	Accessories for coax. components	FZ	Accessoires pour composants coax.
H	**Software**	**H**	**Software**	**H**	**Logiciel**
HP	Software-Komponenten und Software-Module	HP	Rights to software components and software modules	HP	Droits d'utilisation de composants et modules logiciel
HS	Auf Informationsträger geladene Software	HS	Software data media	HS	Logiciel sur support d'information
J	**Meßinstrumente**	**J**	**Indicators**	**J**	**Indicateurs**
JD	Drehspul-Anzeigeinstrument	JD	Moving-coil meter	JD	Galvanomètre à cadre mobile
JE	Dreheisen-Anzeigeinstrument	JE	Moving-iron meter	JE	Galvanomètre à fer mobile
JF	Frequenzmesser	JF	Frequency meter	JF	Fréquencemètre
JG	Drehspulinstrument mit Gleichrichter	JG	Moving-coil meter with rectifier	JG	Galvanomètre à cadre mobile avec redresseur
JH	Betriebsstundenzähler	JH	Operating-hours counter	JH	Compteur d'heures de fonctionnement
JJ	Impulszähler	JJ	Pulse counter	JJ	Compteur d'impulsions
JK	Kleinst-Instrument, z.B. Abstimmanzeiger	JK	Mini-instrument, e.g. tuning indicator	JK	Petit indicateur, p.ex. indicateur d'accord
JM	Mechanisches Zählwerk	JM	Mechanical counter	JM	Compteur mécanique
JP	Projektions-Instrument (Leuchtziffer)	JP	Digital display	JP	Afficheur numérique
JQ	Quotientenmesser (Kreuzspulinstrum.)	JQ	Ratiometer (cross coul)	JQ	Quotientmètre (à cadres croisés)
JU	Uhrwerk	JU	Clockwork	JU	Mouvement d'horlogerie
JW	Elektrodyn. Anzeigeinstrument	JW	Electrodynamic meter	JW	Instrument électrodynamique
L	**Induktivitäten, Magnetik**	**L**	**Inductors, magnetic components**	**L**	**Composants inductifs et magnétiques**
LB	Blech- und Schnittbandkern mit Zubehör	LB	Laminated and C-cores with accessories	LB	Noyaux feuilletés et noyaux de type C, avec accessoires
LC	Keramische Spule	LC	Ceramic coil	LC	Bobine céramique
LD	Netz-, HF-Drossel, Df-Filter	LD	Choke, lead-through filter	LD	Self de choc, filtre dé traversée
LE	Einzelkreis, Bandfilter	LE	Single tuned circuit, bandpass filter	LE	Circuit accordé, filtre passe-bande
LF	Ferritkern mit Zubehör	LF	Ferrite cores with accessories	LF	Noyaux en ferrite avec accessoires
LK	Karbonyleisenkern und elektrischer Kupferkern mit Zubehör	LK	Iron carbonyl slugs and copper slugs with accessories	LK	Noyaux en fer carbonyle et en cuivre, avec accessoires
LL	Luftspule	LL	Air-core coils	LL	Bobines à air
LM	Magnetband und -platte	LM	Magnetic tapes and disks	LM	Bandes et disques magnétiques
LS	Schirmbecher	LS	Screening cans	LS	Boîtiers de blindage
LT	Netztransformator	LT	Power transformer	LT	Transformateur secteur
LU	NF-Übertrager	LU	AF transformer	LU	Transformateur BF
LV	Variometer	LV	Variometer	LV	Variomètre
LW	Wickelkörper, allgemein	LW	Coil formers, general	LW	Carcasses de bobine, en général

Teile-familie	Art des Bauelementes	Parts family	Type of component	Famil-le	Type d'élément
R	**Widerstände**	**R**	**Resistors**	**R**	**Résistances**
RD	Drahtwiderstand	RD	Wire-wound resistor	RD	Résistance bobinée
RF	Kohleschicht-Widerstand	RF	Carbon-film resistor	RF	Résistance à couche de carbone
RG	Metallglasur-Widerstand	RG	Metal-coated resistor	RG	Résistance à couche métallique
RJ	Metalloxyd-Widerstand	RJ	Metal-oxide resistor	RJ	Résistance à oxyde métallique
RK	Kaltleiter, Heißleiter, Varistor	RK	PTC, NTC resistors, varistors	RK	Résistances CPT, CNT, varistors
RL	Metallfilm-Widerstand	RL	Metal-film resistor	RL	Résistance à film métallique
RN	Widerstandsnetzwerk	RN	Resistor network	RN	Réseau de résistance
RR	Draht-Potentiometer	RR	Wire-wound potentiometer	RR	Potentiomètre bobiné
RS	Schicht-Potentiometer	RS	Carbon-film potentiometer	RS	Potentiomètre à couche
RT	Dämpfungsglied, Abschlußwiderstand	RT	Attenuator, termination	RT	Atténuateur, charge
RV	Drahtwiderstand mit Abgriff	RV	Wire-wound resistor, tapped	RV	Résistance bobinée à prise
RW	Wendelpotentiometer	RW	Helical potentiometer	RW	Potentiomètre hélicoidal
S	**Schalter, Relais, Sicherungen**	**S**	**Switches, relays, fuses**	**S**	**Commutateurs, relais, fusibles**
SB	Drucktastenschalter	SB	Pushbutton switch	SB	Commutateur à touche
SD	Drehschalter	SD	Rotary switch	SD	Commutateur rotatif
SF	Kontaktfedersatz	SF	Spring contact assembly	SF	Jeu de ressorts de contact
SH	HF-Koaxialschalter, -Relais, -Teiler	SH	Coaxial RF switch, RF relay, RF attenuator	SH	Commutateur RF coaxial, relais RF, atténuateur RF
SK	Kipp-, Wipp- und Schiebeschalter	SK	Toggle switch, slide switch	SK	Commutateur à bascule, à glissière
SL	Leistungsschalter Netz/HF	SL	AC supply switch, high-power RF switch	SL	Commutateur secteur, de puissance RF
SM	Mikroschalter	SM	Microswitch	SM	Microrupteur
SN	Elektromagnet, Relais	SN	Electromagnetic relay	SN	Relais électromagnétique
SP	Leistungsrelais, Luftschütz	SP	Power relay, air-type contactor	SP	Relais de puissance, contacteur à air
SR	Reedrelais	SR	Reed relay	SR	Relais reed
SS	Sicherung, Schutzschalter	SS	Fuse, automatic cut-out	SS	Fusible, coupe-circuit automatique
ST	Thermoschalter	ST	Thermal circuit breaker	ST	Disjoncteur thermique
SU	Überspannungs-Ableiter	SU	Arrester	SU	Eclateur
SW	Wechselrichter, Näherungsschalter	SW	Inverter (DC-AC), proximity switch	SW	Inverseur (DC-AC), commutateur de proximité
SZ	Zeitschalter	SZ	Time switch	SZ	Interrupteur horaire
V	**Verbindungselemente**	**V**	**Connecting elements**	**V**	**Eléments de raccordement**
VK	Klemme, Klemmleiste	VK	Clamp, terminal strip	VK	Pince, réglette à bornes
VL	Lötöse, Stützpunkt	VL	Soldering lug	VL	Cosse à souder
VS	Schraube, Mutter, Scheibe	VS	Screw, nut, washer	VS	Vis, écrou, disque

Farbcode für Widerstände und Kondensatoren

Anmerkung:
Die Wertangabe der weitgehend miniaturisierten Bauelemente erfolgt überwiegend durch Farbkennzeichnungen, deren Bedeutung der nachfolgenden Tabelle entnommen werden kann.

Hinweis:
Im Zuge des technischen Fortschrittes setzt R&S zunehmend Metallschichtwiderstände mit 1% Toleranz anstelle von Kohleschichtwiderständen mit 5% Toleranz ein. Metallschichtwiderstände können sich dabei an Stellen befinden, an denen gemäß Schaltteilliste Kohleschichtwiderstände vorgesehen sind. Etwaige geringfügige Differenzen der Nennwerte zwischen Stromlaufplan, Schaltteilliste und Gerät liegen im zulässigen Toleranzbereich.

Colour code for resistors and capacitors

Note:
The electrical values of the largely miniaturized components are mainly identified by a colour code, the meaning of which can be taken from the table below.

N. B.:
Following the state of the art R&S makes increasing use of metal-film resistors (1% tolerance) instead of carbon-film resistors (5% tolerance). Metal-film resistors may have been employed where carbon-film resistors are specified in the parts list. Any slight differences of nominal values between circuit diagram, parts list and equipment are within tolerance.

Code couleur pour résistances et condensateurs

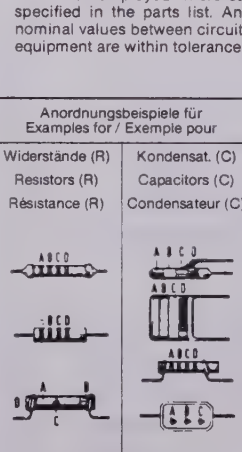
Remarque:
Les valeurs électriques des composants fort miniaturisés sont indiquées dans la plupart des cas par un code couleur dont voici l'explication.

N. B.:
Suivant le progres technique R&S utilise de plus en plus des résistances à film métallique (tolérance 1%) au lieu des résistances à couche de carbone (tolérance 5%). Des résistances à film metallique peuvent se trouver en des points où des types à couche de carbone figurent dans la liste des composants. Les différences minimes des valeurs nominales existant eventuellement entre le schéma de circuit, la liste des composants et l'appareil sont dans la marge de tolérance.

Farbe/Colour/Couleur	A	B	C	D
Schwarz/Black/Noir	—	0		
Braun/Brown/Marron	1	1	0	± 1%
Rot/Red/Rouge	2	2	00	± 2%
Orange/Orangé	3	3	000	
Gelb/Yellow/Jaune	4	4	0000	
Grün/Green/Vert	5	5	00000	± 0,5%
Blau/Blue/Bleu	6	6	000000	
Violett/Violet	7	7	—	± 0,1%
Grau/Gray/Gris	8	8	—	
Weiß/White/Blanc	9	9	—	
Gold/Doré	—	—	—	± 5%
Silber/Silver/Argenté	—	—	—	± 10%
Ohne Farbe/No colour/ Pas de couleur	—	—	—	± 20%

Anordnungsbeispiele für Examples for / Exemple pour

Widerstände (R)	Kondensat. (C)
Resistors (R)	Capacitors (C)
Résistance (R)	Condensateur (C)



1) Toleranzring, hier nicht spezifiziert.
1) Tolerance ring, here not specified.
1) Anneau de tolérance, ne pas spécifié ici.

Definition* / Définition *

Kennzeichen A (Bauteilfarbe/1. Farbring) = 1. Zahl
Kennzeichen B (Bauteilende/2. Farbring) = 2. Zahl
Kennzeichen C (Punkt/3. Farbring) - 3. Zahl = Zahl der Nullen
Kennzeichen D (Punkt/4. Farbring) = Toleranz des Nennwerts in %
(Fehlendes Kennzeichen für D bedeutet ±20%)
Das Fehlen eines Kennzeichens bedeutet, daß die Farbe des Bauteilkörpers die Wertangabe darstellt.

Marking A (body colour or first coloured ring) = 1st digit
Marking B (body end or second coloured ring) = 2nd digit
Marking C (dot or third coloured ring) = number of zeroes
Marking D (dot or fourth coloured ring) = tolerance on nominal value in %
(with no D marking tolerance ± 20%)
The absence of a marking signifies that the body colour gives the corresponding information.

Repérage A (couleur du corps ou 1er anneau) = 1er chiffre
Repérage B (bout du corps ou 2e anneau) = 2e chiffre
Repérage C (point ou 3e anneau) = nombre de zéros.
Repérage D (point ou 4e anneau) = tolérance en % de la valeur nominale
(L'absence du repérage D signifie ± 20%)
L'absence de tout repérage signifie que la couleur du corps du composant représente la valeur correspondante.

* Siehe auch DIN 41 429 und DIN 40 825
* see also IEC publication 62-1952 and 62-1968
* Voir aussi DIN 41 429 et DIN 40 825

Kennz. Comp.No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
B1	BL SN5490AJ DEZ.COUNTER COUNTER		418.1283	TEXAS	SN5490AJ	238.1064
B2	BL SN54LS90J DEC.COUNTER IC DECADE COUNTER SN54LS9		289.4725	TEXAS	SN54LS90J	238.1112
B3	BO UA741HM OPAMP OPERATIONAL AMPLIFIER		009.1300	NAT. SEMIC	LM741H	238.1012
BU1	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K1	FJ	017.6636	ROSENBERG	51K506-003B3	238.1412
BU2	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K2	FJ	017.6636	ROSENBERG	51K506-003B3	238.1429
BU3	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K3	FJ	017.6636	ROSENBERG	51K506-003B3	238.1435
BU4	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K4	FJ	017.6636	ROSENBERG	51K506-003B3	238.1441
BU5	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K5	FJ	017.6636	ROSENBERG	51K506-003B3	238.1458
BU6	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K6	FJ	017.6636	ROSENBERG	51K506-003B3	238.1464
BU7	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K7	FJ	017.6636	ROSENBERG	51K506-003B3	238.1470
BU8	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K8	FJ	017.6636	ROSENBERG	51K506-003B3	238.1487
BU9	FJ EINBAUBUCHSE SYST.BNC SOCKET ENTHALTEN IN K9	FJ	017.6636	ROSENBERG	51K506-003B3	238.1493
BU10	FO EINBAUBUCHSE 2 POLIG 2-POLE FIXED SOCKET		070.4140	LEMOSA	RA0302	
C1	CC 1 NF+50-20%5HDK4000 CERAMIC CAPACITOR		006.0490	VALVO	2222 655 53102	238.1012
C2	CC 1 NF+50-20%5HDK4000 CERAMIC CAPACITOR		006.0490	VALVO	2222 655 53102	238.1012
C3	CC 100PF+- 5%100V NP0 VIE CERAMIC CAPACITOR	CC	060.0771	UNIONCARB	C052C101J2G1CA	238.1012
C4	CC 10PF+-10%200V5K1200VIE CAPACITOR TRIMMWERT"	CC	084.5138	UNION CARB	CK05BX100K	238.1012
C6	CC 100PF+- 5%100V NP0 VIE CERAMIC CAPACITOR	CC	060.0771	UNIONCARB	C052C101J2G1CA	238.1012
C7	CC 1 NF+50-20%5HDK4000 CERAMIC CAPACITOR		006.0490	VALVO	2222 655 53102	238.1012
C8	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1012
C10	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1064
C11	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1064
C15	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1112
C16	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1112
C20	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1012
C21	CE 100UF-10+50% 40V 13X17 ELECTROLYTIC CAPACITOR	CE	022.7595	SIEMENS	B41316-B7107-Z	238.1012
C22	CC 100NF+-10%100V K1200VI CERAMIC CAPACITOR		060.1149	UNION CARB	CK06BX104K	238.1012
C30	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR		022.0678	VALVO	2222 640 53103	238.1164
C31	CC 47PF+-10%200V5K1200VIE CAPACITOR	CC	084.5215	UNION CARB	CK05BX470K	238.1164
C32	CC 15PF+-10%200V5K1200VIE CAPACITOR TRIMMWERT"	CC	084.5150	UNION CARB	CK05BX150K	238.1164
C33	CC 270PF+- 5%100V NP0 VIE CERAMIC CAPACITOR	CC	060.0820	UNIONCARB	C052C271J2G1CA	238.1164
C34	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR		022.0678	VALVO	2222 640 53103	238.1164
C35	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE	006.7120	ROEDERST	EKM 00 CB 222 J	238.1164

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Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C36	CC 68PF+-10%200V5K1200VIE CAPACITOR PARALLEL ZU C33	CC 084.5238	UNION CARB	CK05BX680K	238.1164
C37	CC 270PF+- 5%100V NPO VIE CERAMIC CAPACITOR	CC 060.0820	UNIONCARB	C052C271J2G1CA	238.1164
C40	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1212
C41	CC 82PF+- 5%100V NPO VIEL CERAMIC CAPACITOR	CC 060.0765	UNIONCARB	C052C820J1G5CA	238.1212
C42	CC 39PF+-10%200V5K1200VIE CAPACITOR TRIMMWERT"	084.5209	UNION CARB	CK05BX390K	238.1212
C43	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1212
C44	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE 006.7120	ROEDERST	EKM 00 CB 222 J	238.1212
C50	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1264
C51	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE 006.7120	ROEDERST	EKM 00 CB 222 J	238.1264
C52	CC 100PF+-20% HDK700 RD5 CERAMIC CAPACITOR	006.0431	VALVO	2222 655 53101	238.1264
C53	CC 560PF+- 5%100V NPO VIE CERAMIC CAPACITOR	060.0865	THOMSON	CLC908-560PF+5%	238.1264
C55	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1264
C60	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1312
C61	CE 22UF-10+50% 63V 9X13 ELECTROLYTIC CAPACITOR	CE 006.7120	ROEDERST.	EKM 00 CB 222 J	238.1312
C62	CC 220PF+-20% HDK2000 RD5 CERAMIC CAPACITOR	006.0454	VALVO	2222 655 53221	238.1312
C63	CC 5,6NF+- 5%100V NPO VIE CAPACITOR	060.0988	ERIE	8737-100-C0G-5,6NF-J	238.1312
C64	CC 560PF+-10%200V5K1200VI CAPACITOR TRIMMWERT"	082.7462	UNION CARB	CK05BX561K	238.1312
C65	CC 10 NF +100%HDK6000 CERAMIC CAPACITOR	022.0678	VALVO	2222 640 53103	238.1312
GL1	AD 1N4151 50V 0A2 UDI DIODE	AD 012.0723	AEG-TELEF.	1N4151	238.1012
GL2	AD 1N4151 50V 0A2 UDI DIODE	AD 012.0723	AEG-TELEF.	1N4151	238.1012
GL5	AE 1N823 6,2V REFDI REFERENCE DIODE	012.2278	CDI	1N823	238.1012
GL6	AE BZX79/C15 0,5W ZDI ZENER DIODE	AE 012.2555	VALVO	BZX79/C15 GEGURTET	238.1012
GL7	AG 1N4007 GL1000V 1A0 RECTIFIER	AG 013.0310	AEG-TELEF	1N4007	238.1012
K1	DX KABEL	238.1412			238.1393
K2	DX KABEL	238.1429			238.1393
K3	DX KABEL	238.1435			238.1393
K4	DX KABEL	238.1441			238.1393
K5	DX KABEL	238.1458			238.1393
K6	DX KABEL	238.1464			238.1393
K7	DX KABEL	238.1470			238.1393
K8	DX KABEL	238.1487			238.1393
K9	DX KABEL	238.1493			238.1393
L1	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1012
L2	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1064
L3	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1112
L4	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1112
L5	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1012
L10	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1164
L11	LD 1,5UH 20% 0,9 A OR6 CHOKE	026.3159	JAHRE	74.11-1R50M	238.1164
L15	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1212

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L20	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1264
L21	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1264
L25	LD 150UH 10% 0,23A 4R1 CHOKE	026.3388	JAHRE	74.11-1500K	238.1312
R1	RL 0,35W 475 OHM+-1%TK50 RESISTOR	RL 083.0390	DRALORIC	SMA0207/475OHM-F-D	238.1012
R2	RL 0,35W 475 OHM+-1%TK50 RESISTOR	RL 083.0390	DRALORIC	SMA0207/475OHM-F-D	238.1012
R3	RL 0,35W 2,74KOHM+-1%TK50 RESISTOR	RL 083.0926	DRALORIC	SMA0207/2,74K-F-D	238.1012
R4	RL 0,35W22,10 OHM+-1%TK50 RESISTOR	RL 082.9188	DRALORIC	SMA0207/22,10HM-F-D	238.1012
R5	RL 0,35W 2,74KOHM+-1%TK50 RESISTOR	RL 083.0926	DRALORIC	SMA0207/2,74K-F-D	238.1012
R6	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	238.1012
R7	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,50HM-F-D	238.1012
R8	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	238.1012
R9	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,50HM-F-D	238.1012
R10	RL 0,35W 3,92KOHM+-1%TK50 RESISTOR	RL 083.1039	RESISTA	MK2	238.1012
R11	RL 0,35W22,10 OHM+-1%TK50 RESISTOR	RL 082.9188	DRALORIC	SMA0207/22,10HM-F-D	238.1012
R12	RL 0,35W 562 OHM+-1%TK50 RESISTOR	RL 083.0461	DRALORIC	SMA0207/562OHM-F-D	238.1012
R13	RS 0,5W 2200HM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	066.8622	RUF	0650-655-2200HM+-20%	238.1012
R14	RL 0,35W 562 OHM+-1%TK50 RESISTOR	RL 083.0461	DRALORIC	SMA0207/562OHM-F-D	238.1012
R15	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,50HM-F-D	238.1012
R16	RL 0,35W 2,74KOHM+-1%TK50 RESISTOR	RL 083.0926	DRALORIC	SMA0207/2,74K-F-D	238.1012
R20	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,50HM-F-D	238.1064
R21	RL 0,35W 3,32KOHM+-1%TK50 RESISTOR	RL 083.0990	DRALORIC	SMA0207/3,32K-F-D	238.1064
R22	RL 0,35W 681 OHM+-1%TK50 RESISTOR	RL 083.0490	DRALORIC	SMA0207/6810HM-F-D	238.1064
R23	RL 0,35W 19,1KOHM+-1%TK50 RESISTOR TRIMMWERT	RL 083.1500	DRALORIC	SMA/207/19,1K-F-C	238.1064
R24	RL 0,35W 3,92KOHM+-1%TK50 RESISTOR	RL 083.1039	RESISTA	MK2	238.1064
R25	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	238.1064
R26	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	238.1064
R30	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	238.1112
R31	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	238.1112
R32	RL 0,35W 15,0KOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMA0207/15K-F-D	238.1112
R33	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	238.1112
R40	RL 0,35W 37,4KOHM+-1%TK50 RESISTOR TRIMMWERT	RL 083.1722	DRALORIC	SMA/207/37,4K-F-C	238.1012
R41	RL 0,35W 8,25KOHM+-1%TK50 RESISTOR	RL 083.1239	DRALORIC	SMA0207/8,25K-F-D	238.1012
R42	RL 0,35W 15,0KOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMA0207/15K-F-D	238.1012
R43	RF 0,5 W 1,2 KOHM +-5% DEPOS.-CARBON RESISTOR	007.1383	RESISTA	SK4/1,2K5%	238.1012
R44	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	238.1012
R45	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1012
R46	RL 0,35W 392 OHM+-1%TK50 RESISTOR	RL 082.2183	DRALORIC	SMA0207/392K-F-C	238.1012

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Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R50	RL 0,35W 100 OHM+-1%TK50 RESISTOR	RL 082.6543	DRALORIC	SMAO207/100/HM-F-D	238.1164
R51	RL 0,35W 47,5KOHM+-1%TK50 RESISTOR	RL 083.1800	DRALORIC	SMA/207/47,5K-F-C	238.1164
R52	RL 0,35W 82,5KOHM+-1%TK50 RESISTOR	RL 082.2302	DRALORIC	SMAO207/82,5K-F-C	238.1164
R53	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMAO207/10K-F-D	238.1164
R54	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1164
R55	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMAO207/100HM-F-D	238.1164
R56	RL 0,35W 825 OHM+-1%TK50 RESISTOR	RL 082.2502	DRALORIC	SMA 0207/8250HM-F-C	238.1164
R57	RS 0,5W2,2KOHM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	066.8651	RUF	0650-655-2,2KOHM+-20	238.1164
R58	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMAO207/100HM-F-D	238.1164
R59	RF 0,25W330 OHM +-5% RESISTOR TRIMMWERT	069.3315	DRALORIC	LCAO207/+-5%330	238.1164
R60	RF 0,25W 47 OHM +-5% RESISTOR	069.4705	DRALORIC	LCAO207/+-5%47	238.1164
R70	RL 0,35W 100 OHM+-1%TK50 RESISTOR	RL 082.6543	DRALORIC	SMAO207/100/HM-F-D	238.1212
R71	RL 0,35W 47,5KOHM+-1%TK50 RESISTOR	RL 083.1800	DRALORIC	SMA/207/47,5K-F-C	238.1212
R72	RL 0,35W 82,5KOHM+-1%TK50 RESISTOR	RL 082.2302	DRALORIC	SMAO207/82,5K-F-C	238.1212
R73	RL 0,35W 15,0KOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMAO207/15K-F-D	238.1212
R74	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1212
R75	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMAO207/100HM-F-D	238.1212
R76	RL 0,35W 825 OHM+-1%TK50 RESISTOR	RL 082.2502	DRALORIC	SMA 0207/8250HM-F-C	238.1212
R77	RS 0,5W2,2KOHM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	066.8651	RUF	0650-655-2,2KOHM+-20	238.1212
R78	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMAO207/100HM-F-D	238.1212
R79	RL 0,35W 68,1 OHM+-1%TK50 RESISTOR	RL 082.9636	DRALORIC	SMAO207/68,10HM-F-D	238.1212
R80	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMAO207/47,50HM-F-D	238.1212
R90	RL 0,35W 475 OHM+-1%TK50 RESISTOR	RL 083.0390	DRALORIC	SMAO207/4750HM-F-D	238.1264
R91	RL 0,35W 47,5KOHM+-1%TK50 RESISTOR	RL 083.1800	DRALORIC	SMA/207/47,5K-F-C	238.1264
R92	RL 0,35W 82,5KOHM+-1%TK50 RESISTOR	RL 082.2302	DRALORIC	SMAO207/82,5K-F-C	238.1264
R93	RL 0,35W 15,0KOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMAO207/15K-F-D	238.1264
R94	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1264
R95	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMAO207/100HM-F-D	238.1264
R96	RL 0,35W 825 OHM+-1%TK50 RESISTOR	RL 082.2502	DRALORIC	SMA 0207/8250HM-F-C	238.1264
R97	RS 0,5W2,2KOHM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	066.8651	RUF	0650-655-2,2KOHM+-20	238.1264
R98	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMAO207/100HM-F-D	238.1264
R99	RL 0,35W 56,2 OHM+-1%TK50 RESISTOR	RL 082.9571	DRALORIC	SMAO207/56,20HM-F-D	238.1264
R100	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMAO207/47,50HM-F-D	238.1264
R110	RL 0,35W 475 OHM+-1%TK50 RESISTOR	RL 083.0390	DRALORIC	SMAO207/4750HM-F-D	238.1312
R111	RL 0,35W 47,5KOHM+-1%TK50 RESISTOR	RL 083.1800	DRALORIC	SMA/207/47,5K-F-C	238.1312
R112	RL 0,35W 82,5KOHM+-1%TK50 RESISTOR	RL 082.2302	DRALORIC	SMAO207/82,5K-F-C	238.1312
R113	RL 0,35W 15,0KOHM+-1%TK50 RESISTOR	RL 083.1400	DRALORIC	SMAO207/15K-F-D	238.1312
R114	RL 0,35W 2,21KOHM+-1%TK50 RESISTOR	RL 082.2477	DRALORIC	SMA 0207/2,21K-F-C	238.1312

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R115	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/10OHM-F-D	238.1312
R116	RL 0,35W 825 OHM+-1%TK50 RESISTOR	RL 082.2502	DRALORIC	SMA 0207/8250HM-F-C	238.1312
R117	RS 0,5W2,2KOHM+-20%KURVE1 DEPOS.-CARBON POTENTIOMET	066.8651	RUF	0650-655-2,2KOHM+-20	238.1312
R118	RL 0,35W 10,0 OHM+-1%TK50 RESISTOR	RL 082.8852	DRALORIC	SMA0207/10OHM-F-D	238.1312
R119	RL 0,35W 56,2 OHM+-1%TK50 RESISTOR	RL 082.9571	DRALORIC	SMA0207/56,2OHM-F-D	238.1312
R120	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,5OHM-F-D	238.1312
SI1	SS SCHMELZS.M200CDIN41571 FUSE	SS 020.7223	WICKMANN	MO,2CDIN41571TROP.	238.1370
T1	AK 2N2369A N 15V 200MA TRANSISTOR	AK 010.4680	VALVO	2N2369A	238.1012
T2	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1012
T3	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1012
T4	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1012
T5	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1012
T10	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1064
T11	AK 2N2369A N 15V 200MA TRANSISTOR	AK 010.4680	VALVO	2N2369A	238.1064
T12	AL BD235 N 60V 2AO TRANSISTOR	010.0903	VALVO	BD235	238.1064
T13	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1064
T15	AK 2N2369A N 15V 200MA TRANSISTOR	AK 010.4680	VALVO	2N2369A	238.1112
T16	AK 2N2369A N 15V 200MA TRANSISTOR	AK 010.4680	VALVO	2N2369A	238.1112
T20	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1012
T21	AL BD236 P 60V 1AO TRANSISTOR	AL 010.0361	VALVO	BD236	238.1012
T25	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1164
T26	AK ~~BCY59IX~~ 2N5109 N 45V ~~200~~ 500MA TRANSISTOR	AK 010.~~5163~~ 0761	VALVO	BCY59IX	238.1164
T27	AK ~~BCY59IX~~ 2N5109 N 45V ~~200~~ 500MA TRANSISTOR	AK 010.~~5163~~ 0761	VALVO	BCY59IX	238.1164
T30	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1212
T31	AK ~~BCY59IX~~ 2N5109 N 45V ~~200~~ 500MA TRANSISTOR	AK 010.~~5163~~ 0761	VALVO	BCY59IX	238.1212
T32	AK ~~BCY59IX~~ N 45V ~~200~~ MA TRANSISTOR	AK 010.~~5163~~ 0761	VALVO	BCY59IX	238.1212
T35	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1264
T36	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1264
T37	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1264
T40	AK BCY79IX P 45V 200MA TRANSISTOR	AK 010.3777	VALVO	BCY79IX	238.1312
T41	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1312
T42	AK BCY59IX N 45V 200MA TRANSISTOR	AK 010.5163	VALVO	BCY59IX	238.1312
TR1	LU UEBERTRAGER TRANSFORMER	238.1035			238.1012
TR2	LU UEBERTRAGER TRANSFORMER	238.1041			238.1012
TR3	LU UEBERTRAGER TRANSFORMER	238.1187			238.1164
TR4	LU UEBERTRAGER TRANSFORMER	238.1235			238.1212
TR5	LU UEBERTRAGER TRANSFORMER	238.1287			238.1264
TR6	LU UEBERTRAGER TRANSFORMER	238.1335			238.1312
					- ENDE -

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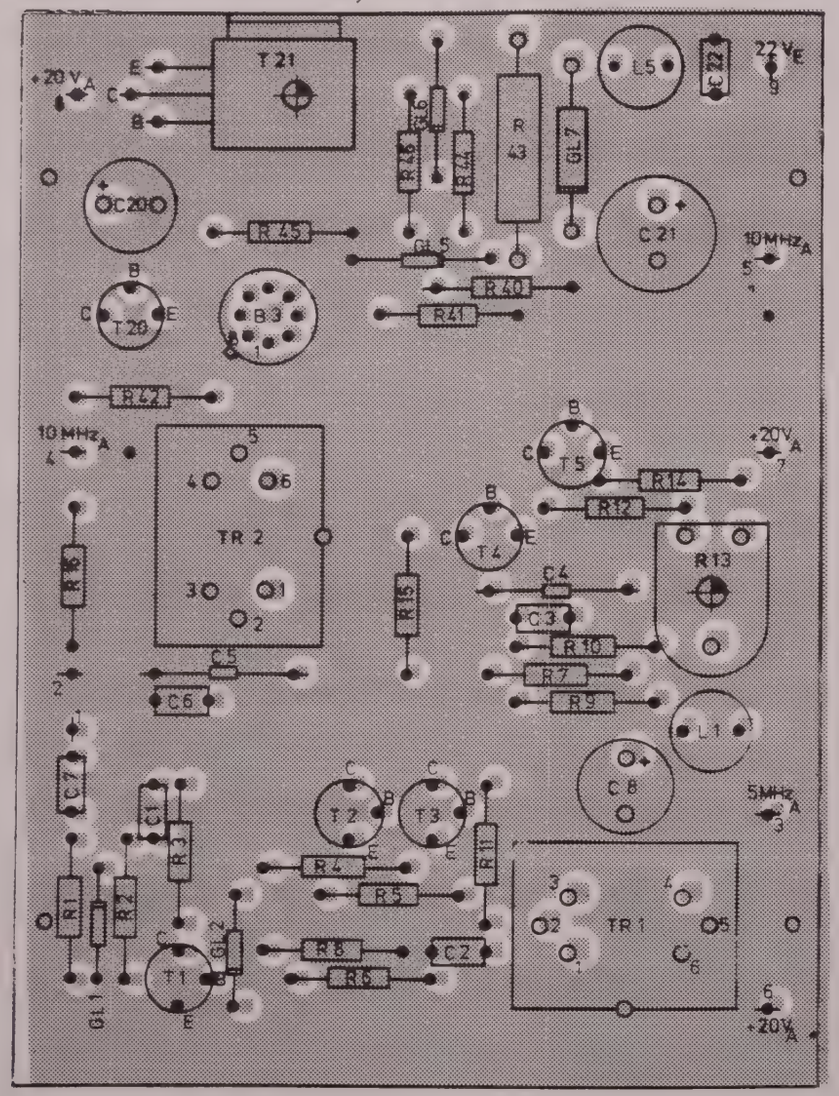
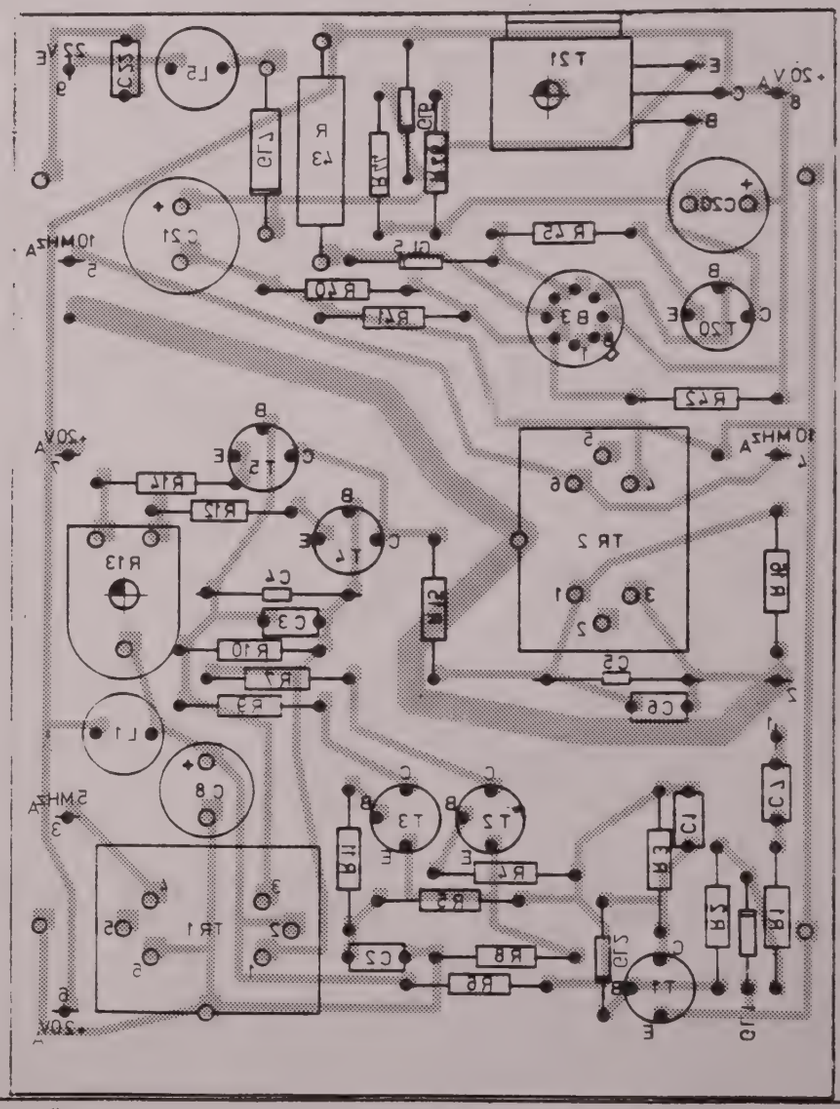
Ansicht und Leitungsführung Bauteilseite
View of components side with tracks

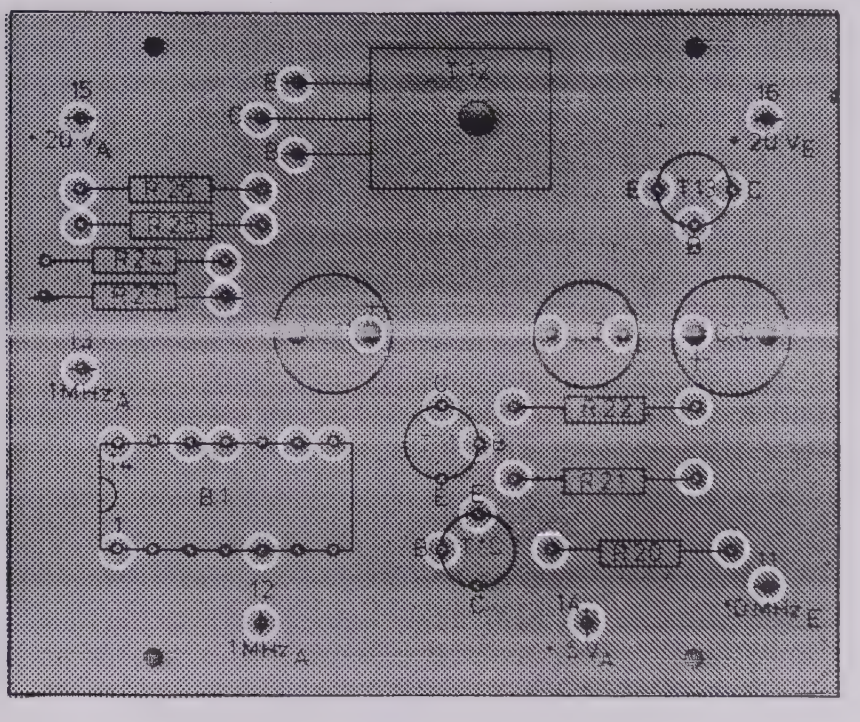


Ansicht und Leitungsführung Leiterseite
View of printed side with tracks

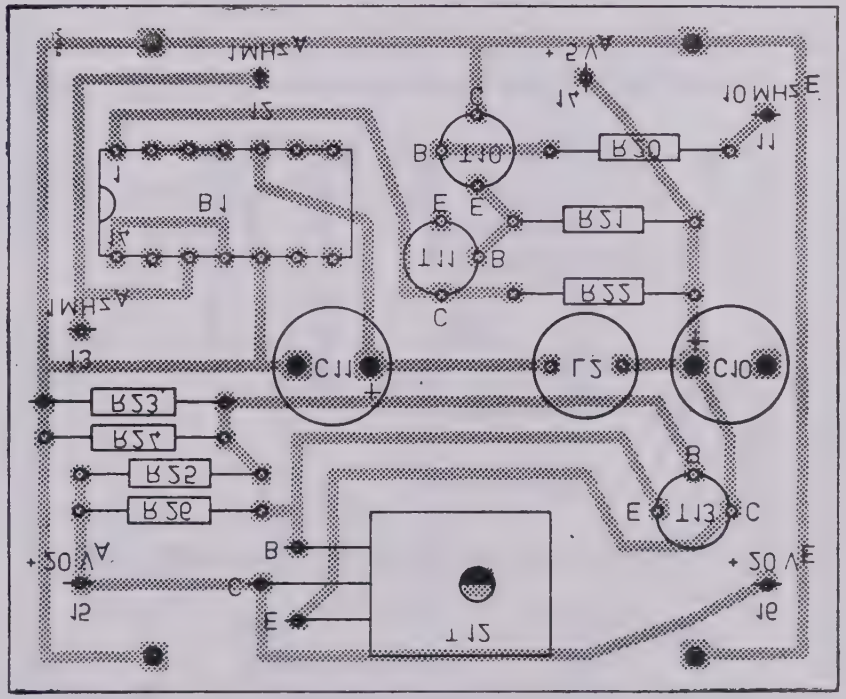


	Name	Halbzeug Werkstoff	Maßstab 2:1	Unto Maße	
A –	5. J.73	Mw			
B 20036	15.4.76	B:	Benennung Eingangsverst. u. Verdoppler INPUT AMPLIFIER AND DOUBLER		
			Zeichnung besteht aus 2 Blatt	Blatt-Nr 2	
		registr. im Verz. 238.0616 V	erste Z. 238.0616	Zeichn. Nr 238.1012	
ROHDE & SCHWARZ MÜNCHEN	Stelle 1GME	Gez. Datum 22.8.73 Pt.	bearb. Datum 5.10.73 Mw	geprüft Datum	

Ansicht und Leitungsführung Bauteilseite
View of components side with tracks

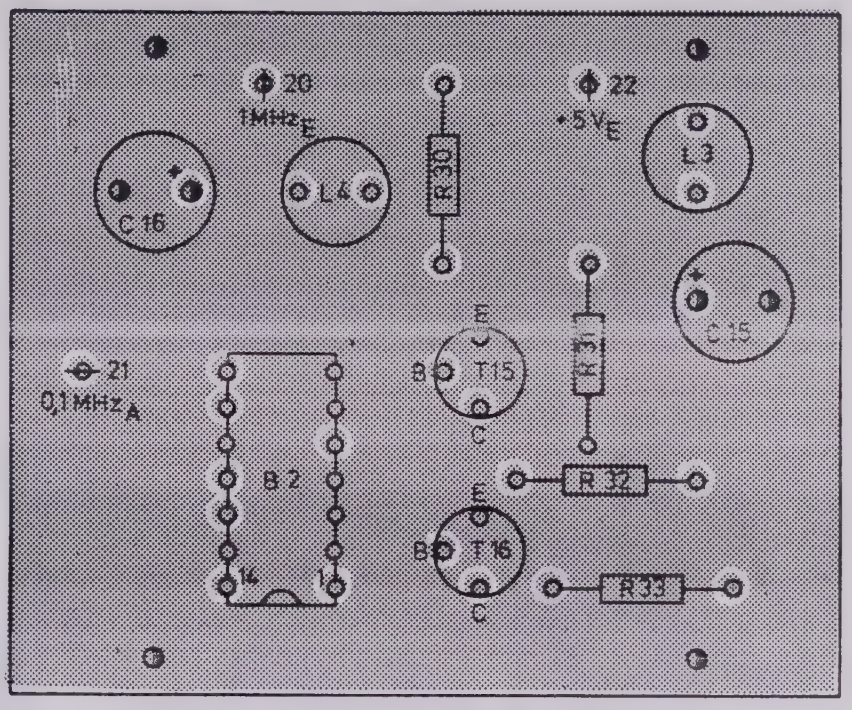


Ansicht und Leitungsführung Leiterseite
View of printed side with tracks

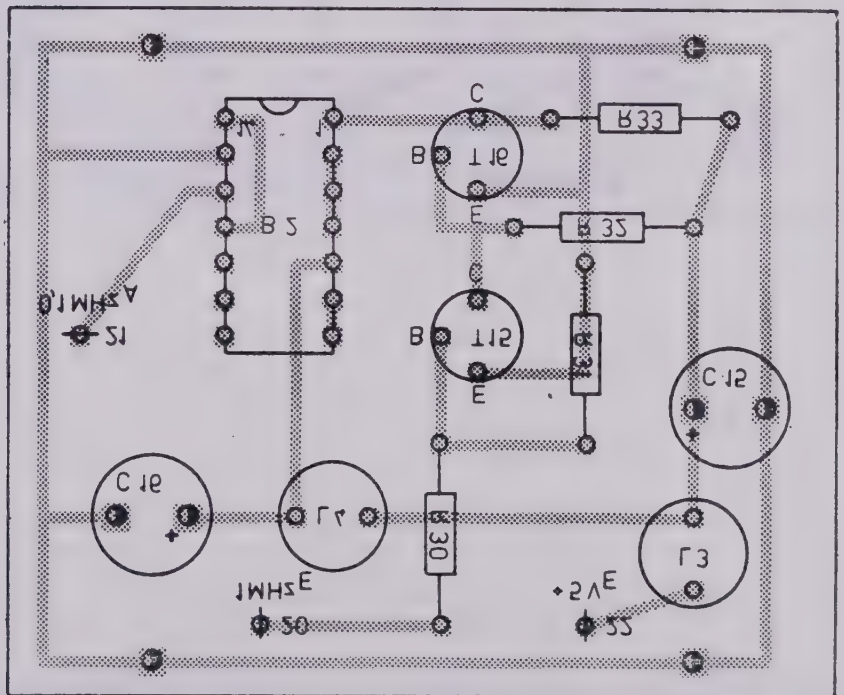


	Datum	Name	Halbzeug, Werkstoff	Maßstab 2 : 1	Allgem. Maße
C	32746	9.86	Gn		
				Benennung Frequenzteiler 10MHz-1MHz FREQUENCY DIVIDER 10MHz-1MHz	Z
				Zeichnung besteht aus 2 Blatt	Blatt Nr 2
			registr. in Verz 238.0616 V	erste Z 238.0616	Zeichn. Nr 238.1064
ROHDE & SCHWARZ MÜNCHEN			1 GME	23.8.73 MM	3.10.73 Mw

Ansicht und Leitungsführung Bauteilseite
View of components side with tracks

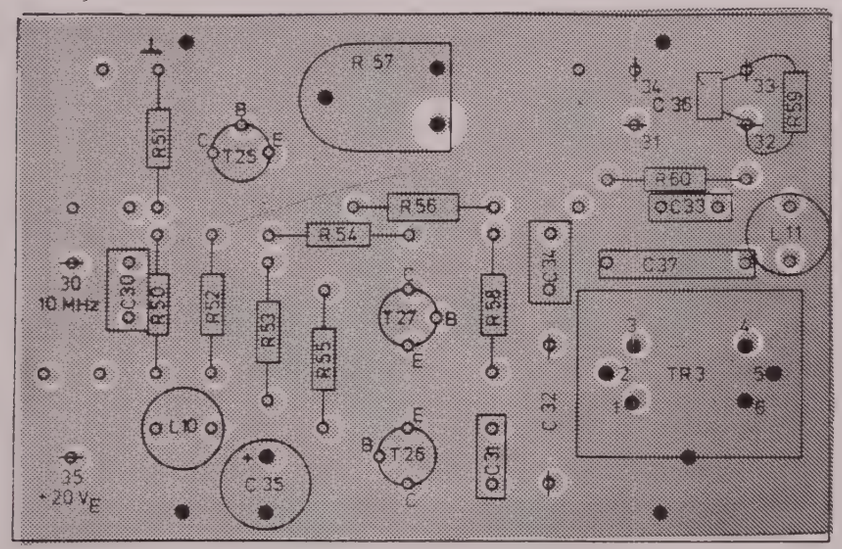


Ansicht und Leitungsführung Leiterseite
View of printed side with tracks

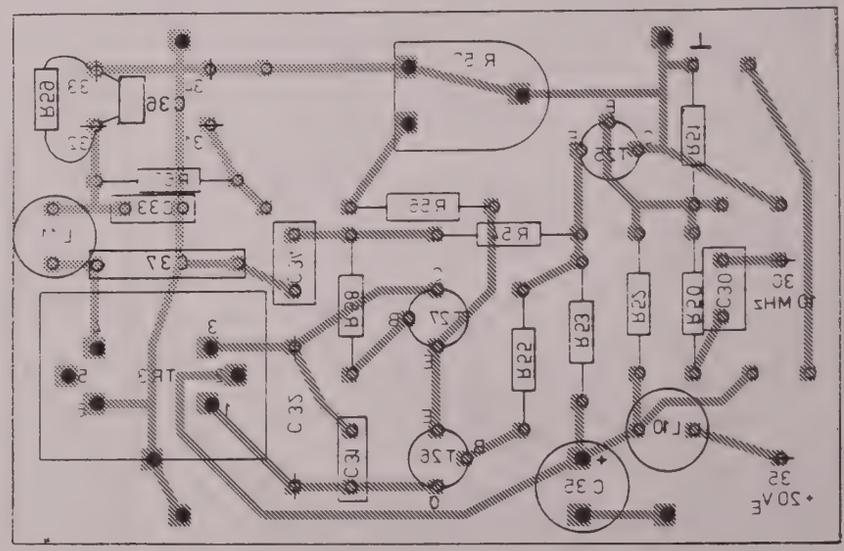


Änd. Änd.-Mitt. Nr.	Datum / Name	Halbzeug, Werkstoff	Maßstab 2:1	Untol. Maßbr.
A	3.10.73 Mw		Benennung Frequenzteiler 1MHz - 0,1MHz FREQUENCY DIVIDER 1MHz - 0,1MHz	Z
			Zeichnung besteht aus 2 Blatt	Blatt-Nr 2
		registr. in Verz 238.0616 V	erste Z 238.0616	Zeichn Nr 238.1112
ROHDE & SCHWARZ MÜNCHEN		Stelle 1GME	23.8.73 Pt.	

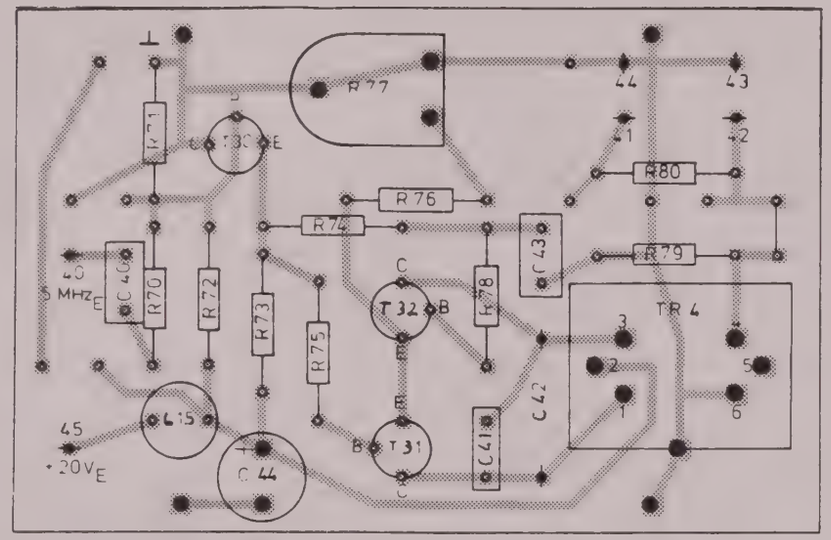
Ansicht und Leitungsführung Bauteilseite
View of components side with tracks



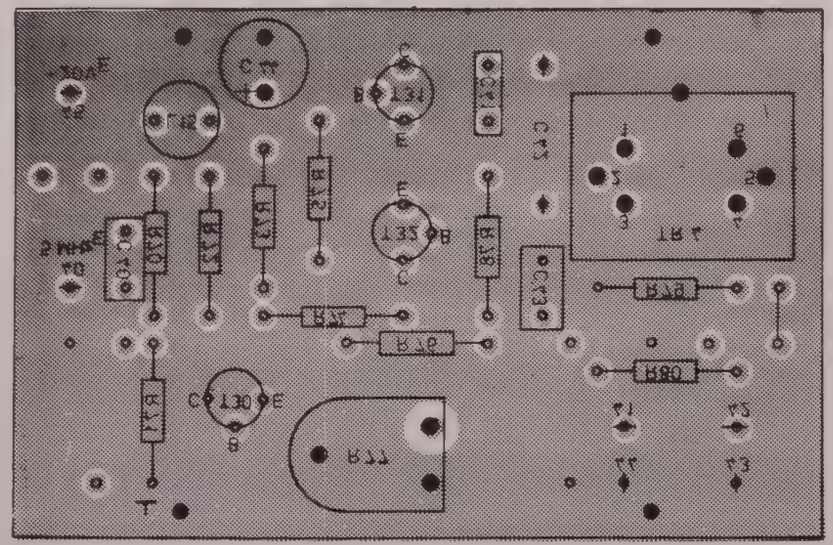
Ansicht und Leitungsführung Leiterseite
View of printed side with tracks



	Änderung	Datum	Name	Halbzeug, Werkstoff	Maßstab 2:1	Untol Maße
A	26380	9.80	LA		Benennung Ausgangsverstärker 10 MHz OUTPUT AMPLIFIER 10 MHz	Z
B	29 277	8.84	HS		Zeichnung besteht aus 2 Blatt	Blatt-Nr 2
				registr. in Verz. 238.0616 V	erste Z. 238.0616	Zeichn. Nr. 238.1164
				ROHDE & SCHWARZ MÜNCHEN	Stelle 1GME	gez. Datum 23.P.73 Pt.
					geprüft Datum 3.10.73 Nw	Orda.-Nr (nur für K-Ordner)



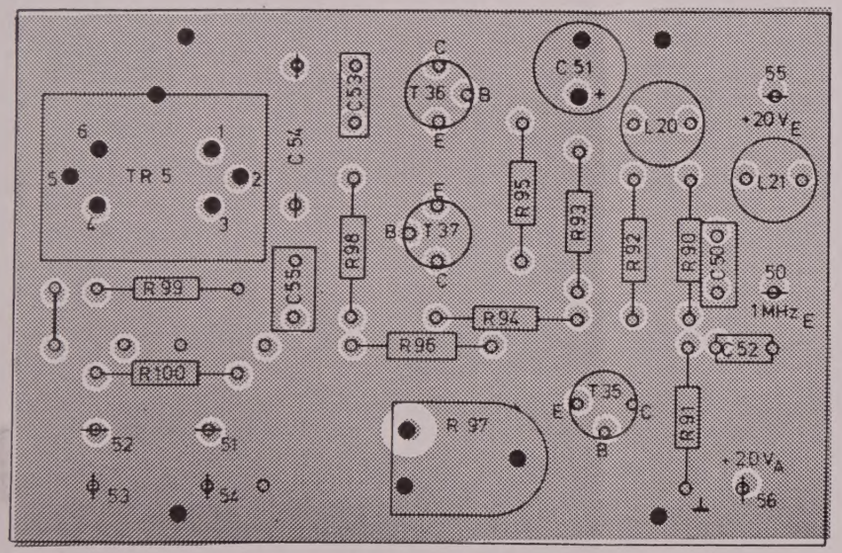
Ansicht und Leitungsführung Bauteilseite
View of components side with tracks



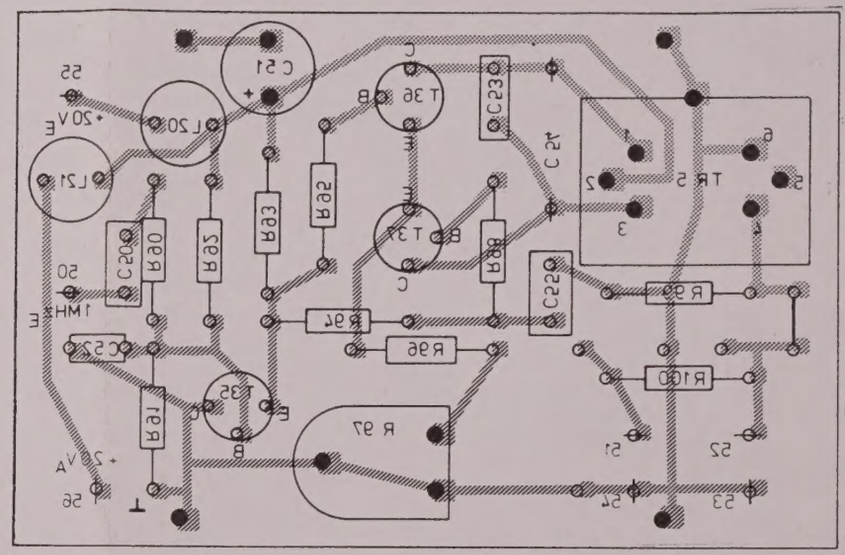
Ansicht und Leitungsführung Leiterseite
View of printed side with tracks

Datum Name	Halbzeug, Werkstoff	Maßstab 2 : 1	Toleranz Maße
		Benennung Ausgangsverstärker 5 MHz OUTPUT AMPLIFIER 5 MHz	Z
		Zeichnung besteht aus 2 Blatt	Blatt-Nr 2
	registr. in Verz. 238.0616 V	erste Z 238.0616	Zeichn. Nr 238.1212
ROHDE & SCHWARZ MÜNCHEN	Stelle 1 GME	gez. Datum 27.8.73 MM	bearb. Datum 3.10.73 Mw

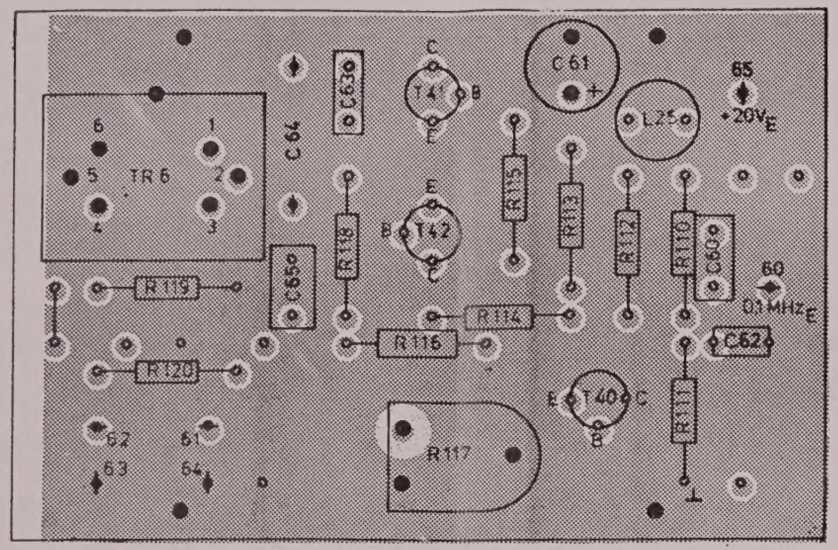
Ansicht und Leitungsführung Bauteilseite
View of components side with tracks



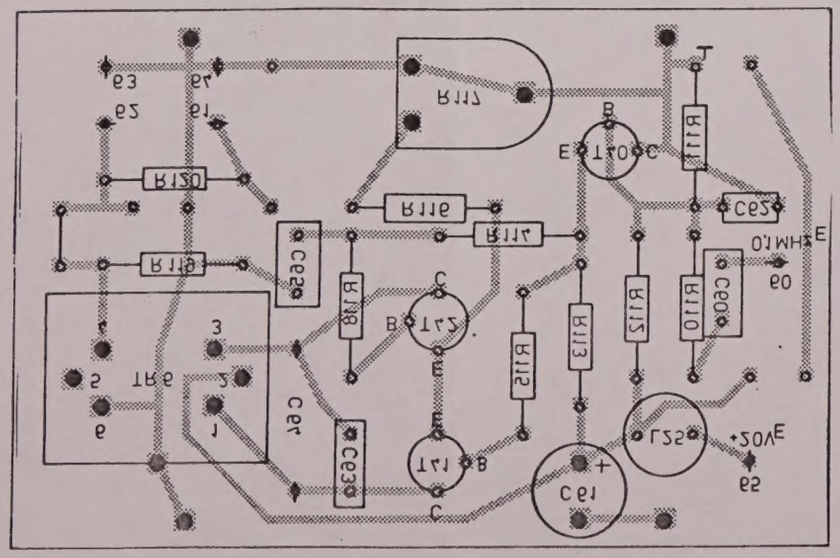
Ansicht und Leitungsführung Leiterseite
View of printed side with tracks



Datum / Name	Halbzeug, Werkstoff	Maßstab 2:1	Untol Maße	
		Benennung Ausgangsverstärker 1MHz OUTPUT AMPLIFIER 1MHz		Z
		Zeichnung besteht aus 2 Blatt	Blatt-Nr 2	
	registr. in Verz. 238.0616 V	erste Z 238.0616	Zeichn. Nr 238.1264	
ROHDE & SCHWARZ MÜNCHEN	Stelle 1GME / gez. Datum 24.8.73 Pt.	bearb. Datum 3.10.73 Mw / geprüft Datum	Dran. Nr. (nur für R. Drüner)	



Ansicht und Leitungsführung Bauteilseite
View of components side with tracks



Ansicht und Leitungsführung Leiterseite
View of printed side with tracks

Änd. Index / Änd. Mitt. Nr.	Datum	Name	Halbzeug, Werkstoff	Maßstab 2 : 1 — Unto. Maße
A	10.10.73	Mw		Benennung Ausgangsverstärker 0,1 MHz / OUTPUT AMPLIFIER 0.1 MHz — Z
				Zeichnung besteht aus 2 Blatt — Blatt-Nr 2
			registr. in Verz. 238.0616 V	erste Z. 238.0616 — Zeichn. Nr. 238.1312
ROHDE & SCHWARZ MÜNCHEN			Stelle 1 GME — gez. Datum 27.8.73 MM	bearb. Datum 3.10.73 Mw — geprüft Datum — (nur für R.-Ordner)